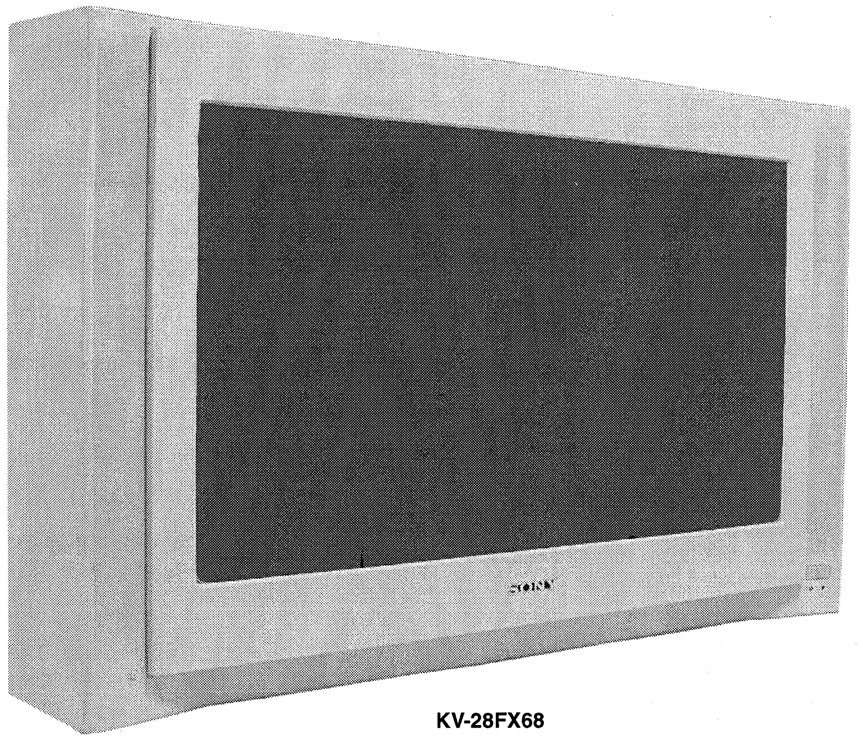
Self Diagnosis Supported model

SERVICE MANUAL

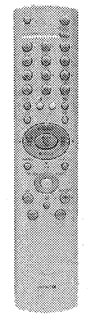
AE-6B CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
KV-28FX68B	RM-932	FR	SCC-Q83Q-A	KV-28FX68U	RM-932	UK	SCC-Q84R-A
KV-28FX68E	RM-932	ESP	SCC-Q81S-A				

FD Trinitron



KV-28FX68



RM-932

TRINITRON ® COLOR TV

SONY®

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS, THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE'LANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

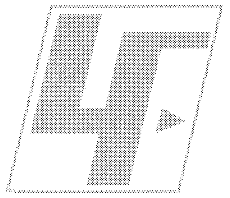
ATTENTION AUX COMPOSANTS RELATIFS Á LA SECURITÈ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

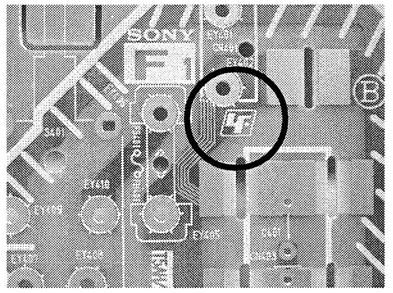
CAUTION

Lead Free Soldered Boards

The circuit boards listed below [Table 1] used in these models may have been processed using Lead Free Solder. The boards are identified by the LF logo located close to the board designation e.g. F1, H1 etc [see examples]. The servicing of these boards requires special precautions to be taken as outlined below.



example 1



example 2

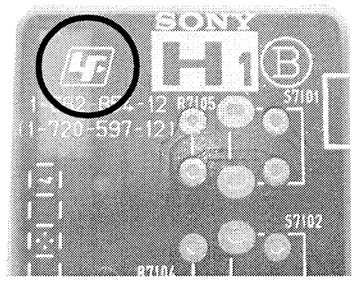


Table 1

Board	Function
C	R,G,B Out
F4	Power Switch & Fuse
H1	LED & IR Receiver
H2	Front AV and Headphone

It is strongly recommended to use Lead Free Solder material in order to guarantee optimal quality of new solder joints. Lead Free Solder is available under the following part numbers :

Partnumber	Diameter	Remarks
7-640-005-19	0.3mm	0.25Kg
7-640-005-20	0.4mm	0.50Kg
7-640-005-21	0.5mm	0.50Kg
7-640-005-22	0.6mm	0.25Kg
7-640-005-23	0.8mm	1.00Kg
7-640-005-24	1.0mm	1.00Kg
7-640-005-25	1.2mm	1.00Kg
7-640-005-26	1.6mm	1.00Kg

Due to the higher melting point of Lead Free Solder the soldering iron tip temperature needs to be set to 370 degrees centigrade. This requires soldering equipment capable of accurate temperature control coupled with a good heat recovery characteristics.

For more information on the use of Lead Free Solder, please refer to *http://www.sony-training.com*

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
B	B/G/H, D/K, I, L	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12, S01-S03, F02-F10, B-Q UHF : E21-E69, F21-F69, B21-B69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
E	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12, S01-S03 UHF : E21-E69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
U	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

Picture Tube	Flat Display FD Trinitron Approx 82 cm (28 inches) (Approx 76 cm picture measured diagonally)	**Sound output**	
		Right and Left speaker	2x20W (Music Power) 2x10W (RMS)
		Sub Woofer	1x30W (Music Power) 1x15W (RMS)
Input/Output Terminals [REAR]		**General Specifications**	
1: 21-pin Euro connector (CENELEC standard)	Inputs for Audio and Video signals. Inputs for RGB. Outputs of TV Video and Audio signals.	Power Requirements	220 - 240V
		Power Consumption	130W
2: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for S Video. Outputs of TV Video and Audio signals. (selectable)	Dimensions	Approx 883x567x562mm
		Weight	Approx 64kg
3: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for S Video. Outputs of TV Video and Audio signals. (Monitor Out)	Supplied Accessories	RM-932 Remote Commander (1) IEC designated R6 battery (2)
Phono Jacks	Output Connectors variable for Audio Signals	Other Features	100 Hz picture, DNR, Auto Noise Reduction, Teletext, Smartlink, BBE, Virtual Dolby
Input/Output Terminals [SIDE]		**Remote Control System : Infrared Control**	
Headphone jack	stereo mini jack	Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Audio inputs	phono jacks		
Video inputs	phono jacks		
S Video input	4 pin DIN		

Design and specifications are subject to change without notice.

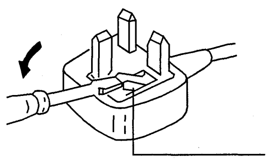
Model Name Item	KV-28FX68B	KV-28FX68E	KV-28FX68U
Pal Comb	OFF	OFF	OFF
PIP	OFF	OFF	OFF
RGB Priority	ON	ON	ON
Woofer Box	ON	ON	ON
Scart 1	ON	ON	ON
Scart 2	ON	ON	ON
Scart 3	ON	ON	ON
Side in (4)	ON	ON	ON
Projector	OFF	OFF	OFF
Norm B/G	ON	ON	OFF
Norm I	ON	OFF	ON
Norm D/K	ON	ON	OFF
Norm AUS	OFF	OFF	OFF
Norm L	ON	OFF	OFF
Norm SAT	OFF	OFF	OFF
Norm M	OFF	OFF	OFF
Teletext	ON	ON	ON
Nicam Stereo	ON	ON	ON

WARNING (UK Models only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** rating. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by ASTA to **BS 1362**, ie one that carries the ASTA mark.

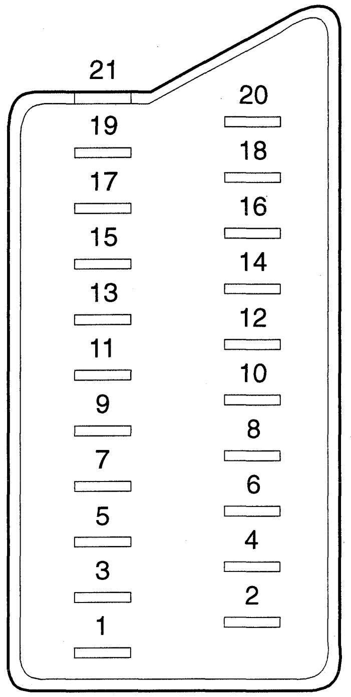
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET.

When an alternative type of plug is used, it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with a screwdriver blade and replace the fuse.

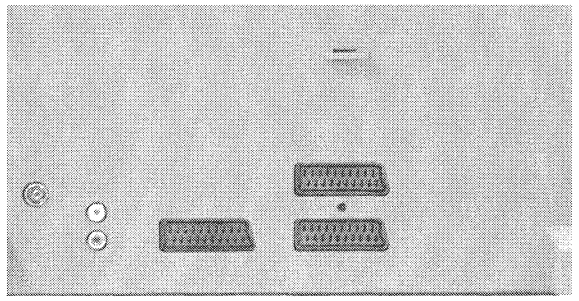
21 pin connector



Pin No	1	2	3	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedence : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedence : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedence : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	–	–	Red input	0.7 +/- 3dB, 75 ohms, positive
	–	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedence : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	–	–	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	–	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

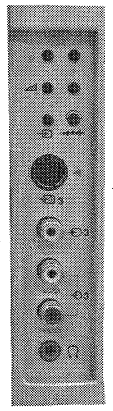
○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Rear Connection Panel



Front Connection Panel

S-Video socket



S Video socket pin configuration		
Pin No	Signal	Signal Level
1	Ground	-
2	Ground	-
3	Y (S signal) input	1V+/- 3dB 75ohm, positive Sync. 0.3V -3 +10dB
4	C (S signal) input	0.3V+/- 3dB 75ohm, positive Sync.

The identification of errors within the AE-6B chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1, non fatal errors are reported using this method.
Each time the software detects an error it is stored within the NVM. See Table 2.

Table 1

Error Message	LED Code
No error	00
Reserved	01
OCP (Over Current Protection)	02
Over Voltage Protection	03
No Vertical Sync	04
IKR Error at power on	05
IIC bus clock and/or data lines low at power on	06
NVM no IIC bus acknowledge at power on	07
Horizontal Protection	08
Tuner no acknowledge at power on	09
Sound Processor Error	10
Reserved	11
Scanrate Error	12
DAC Error	13
Backend Error	14
Dynamic Convergence Error	15
PIP Error	16

How to enter into Table 2

1. Turn on the main power switch of the TV set.
2. Program Remote Commander for Operation in Service Mode. [See Page 22].
3. Press 'VIDEO' 'VIDEO' > 'MENU' on the Remote Commander.
4. Using the Remote Commander, Scroll to the 'Error Menu' item using the down arrow key, then press the right arrow key.
5. The following table will be displayed indicating the error count.

Table 2

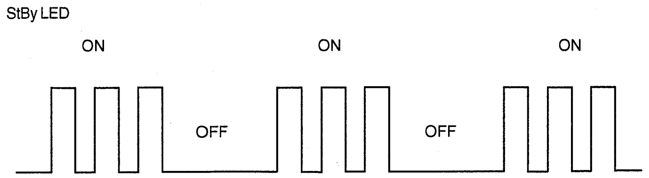
```
ERROR MENU

E02     OCP        (0, 255)   0
E03     OVP        (0, 255)   0
E04     VSYNC      (0, 255)   0
E05     IKR        (0, 255)   0
E06     IIC        (0, 255)   0
E07     NVM        (0, 255)   0
E08     HPROT      (0, 255)   0
E09     TUNER      (0, 255)   0
E10     SOUNDP     (0, 255)   0
E11     -          (0, 255)   0
E12     SCANRATE   (0, 255)   0
E13     DAC        (0, 255)   0
E14     BACKEND    (0, 255)   0
E15     DYN CON    (0, 255)   0
E16     PIP        (0, 255)   0

WORKING TIME
HOURS                        14
MINUTES                       7
```

Note: To clear the error count data press '80' on the Remote commander.

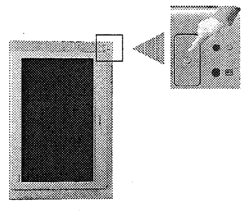
Flash Timing Example : e.g. error number 3


StBy LED
ON
ON
ON
OFF
OFF

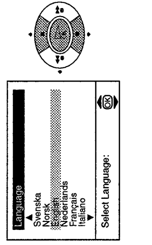
The operating instructions mentioned here are partial abstracts from the 'Operating Instruction Manual'. The page numbers of the 'Operating Instruction Manual' remain as in the manual.

Switching On the TV and Automatically Tuning

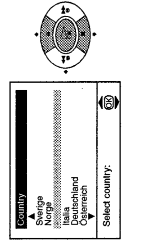
The first time you switch on your TV, a sequence of menu screens appear on the TV enabling you to: 1) choose the language of the menu screen, 2) adjust the picture slant, 3) search and store all available channels (TV Broadcast) and 4) change the order in which the channels (TV Broadcast) appear on the screen. However, if you need to change any of these settings at a later date, you can do that by selecting the appropriate option in the 🖮 (Set Up menu) or by pressing the Auto Start Up Button ⏭ on the TV set.



1 Connect the TV plug to the mains socket (220-240V AC, 50Hz)
The first time that the TV set is connected, it is usually turned on. If the TV is off, press the ⏻ on/off button on the TV set to turn on the TV.
The first time you switch on the TV, a **Language** menu displays automatically on the TV screen.

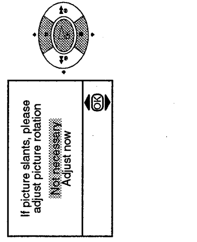

Language
Svenska
Norsk
English
Nederlands
Français
Italiano
Select Language:
OK

2 Press the ⬇ or ⬆ button on the remote control to select the language, then press the **OK** button to confirm your selection. From now on all the menus will appear in the selected language.


Country
Sverige
Norge
Italia
Deutschland
Österreich
Select country:
OK

3 The **Country** menu appears automatically on the TV screen. Press the ⬇ or ⬆ button to select the country in which you will operate the TV set, then press the **OK** button to confirm your selection.

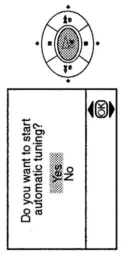
- If the country in which you want to use the TV set does not appear in the list, select '-' instead of a country.
- In order to avoid wrong teletext characters for Cyrillic languages we recommend to select Russia country in the case that your own country does not appear in the list.


If picture slants, please adjust picture rotation
Not necessary
Adjust now
OK

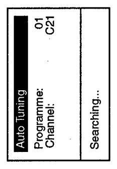
4 Because of the earth's magnetism, the picture might slant. The **Picture Rotation** menu allows you to correct the picture slant if it is necessary.

a) If it is not necessary, press ⬇ or ⬆ to select **Not necessary** and press **OK**.

b) If it is necessary, press ⬇ or ⬆ to select **Adjust now**, then press **OK** and correct any slant of the picture between –5 and +5 by pressing ⬇ or ⬆. Finally press **OK** to store.


Do you want to start automatic tuning?
Yes
No
OK

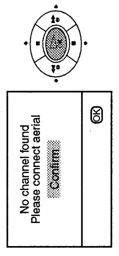
5 The Auto Tuning menu appears on the screen. Press the **OK** button to select **Yes**.


Auto Tuning
Programme: 01
Channel: C21
Searching...

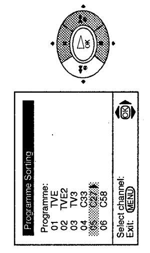
6 The TV starts to automatically search and store all available broadcast channels for you.

⚠ This procedure could take some minutes. Please be patient and do not press any buttons, otherwise the automatic tuning will not be completed.

ⓘ In some countries the TV Broadcaster installs the channels automatically (ACI system). In this case, the TV Broadcaster sends a menu in which you can select your city by pressing the ⬇ or ⬆ button and **OK** to store the channels.


No channel found
Please connect aerial
Confirm
OK

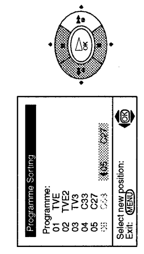
⚠ If no channels were found during the auto tuning process then a new menu appears automatically on the screen asking you to connect the aerial. Please connect the aerial (see page 6) and press **OK**. The auto tuning process will start again.


Programme Sorting
Programme:
01 TVE
02 TVE2
03 TV3
04 C33
05 C27
06 C58
Select channel:
Exit: MENU
OK

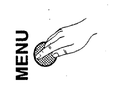
7 ⓘ After all available channels are captured and stored, the **Programme Sorting** menu appears automatically on the screen enabling you to change the order in which the channels appear on the screen.

a) If you wish to keep the broadcast channels in the tuned order, go to step 8.

b) If you wish to store the channels in a different order:


Programme Sorting
Programme:
01 TVE
02 TVE2
03 TV3
04 C33
05 C27
05 C27
Select new position:
Exit: MENU
OK

1. Press the ⬇ or ⬆ button to select the programme number with the channel (TV Broadcast) you wishto rearrange, then press the ➡ button.
2. Press the ⬇ or ⬆ button to select the new programme number position for your selected channel (TV Broadcast), then press ⬅.
3. Repeat steps b)1 and b)2 if you wish to change the order of the other channels.

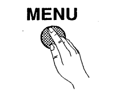


8 Press the **MENU** button to remove the menu from the screen.

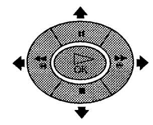
👍 *Your TV is now ready for use*

Introducing and Using the Menu System

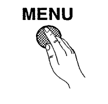
Your TV uses an on-screen menu system to guide you through the operations. Use the following buttons on the remote control to operate the menu system:



1 Press the **MENU** button to switch the first level menu on.



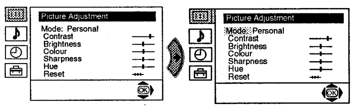
2
- •To highlight the desired menu or option, press ↓ or ↑ .
- •To enter to the selected menu or option, press → .
- •To return to the last menu or option, press ← .
- •To alter settings of your selected option, press ↓ / ↑ / ← or → .
- •To confirm and store your selection, press **OK**.



3 Press the **MENU** button to remove the menu from the screen.

Menu Guide

Level 1 **Level 2** **Level 3 / Function**



PICTURE ADJUSTMENT

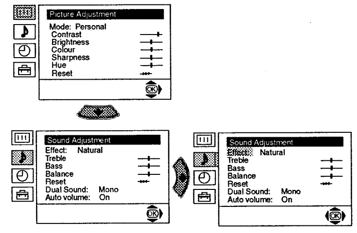
The “Picture Adjustment” menu allows you to alter the picture settings.

To do this: after selecting the item you want to alter press → , then press repeatedly ↓ / ↑ / ← or → to adjust it and finally press **OK** to store the new adjustment.
This menu also allows you to customise the picture mode based on the programme you are watching:

- ↓ **Live** (for live broadcast programmes, DVD and Digital Set Top Box receivers).
- ↓ **Personal** (for individual settings).
- ↓ **Movie** (for films).

*•**Brightness, Colour** and **Sharpness** can only be altered if “Personal” mode is selected.*
*•**Hue** is only available for NTSC colour signal (e.g: USA video tapes).*
*•Select **Reset** and press **OK** to reset the picture to the factory preset levels.*

Level 1 **Level 2** **Level 3 / Function**



SOUND ADJUSTMENT

The “Sound Adjustment” menu allows you to alter the sound settings.

To do this: after selecting the item you want to alter, press → . Then press repeatedly ↓ / ↑ / ← or → to adjust it and finally press **OK** to store the new adjustment.

Effect	→	↓ **Natural:**	Enhances clarity, detail and presence of sound by using “BBE High Definition Sound system”*.
		↓ **Dynamic:**	“BBE High Definition Sound system”* intensifies clarity and presence of sound for better intelligibility and musical realism.
		↓ **Dolby**Virtual:**	Simulates the sound effect of “Dolby Surround Pro Logic”.
		↓ **Off:**	Flat response.
Treble	→	← Less	→ More
Bass	→	← Less	→ More
Balance	→	← Left	→ Right
Reset	(OK)	Resets the sound to the factory preset levels.	
Dual Sound	→	• *For a stereo broadcast:* ↓ **Mono.** ↓ **Stereo.** • *For a bilingual broadcast:* ↓ **Mono** (for mono channel if available). ↓ **A** (for channel 1). ↓ **B** (for channel 2).	
Auto Volume	→	↓ **Off:** Volume level changes according to the broadcast signal. ↓ **On:** Volume level of the channels will stay the same, independent of the broadcast signal (e.g. in the case of advertisements).	

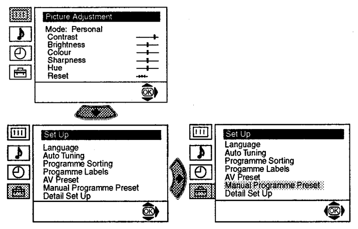
- *If you are listening to the TV through headphones, the “Effect” option will automatically be switched to “Off”.*
- *If you select “Dolby Virtual” on the “Effect” option, the “Auto Volume” option will automatically be switched to “Off” and vice versa.*

* *The “BBE High Definition Sound system” is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word “BBE” and BBE Symbol are trademarks of BBE Sound, Inc.*

** *This TV has been designed to create the “Dolby Surround” sound effect by simulating the sound of four speakers with two speakers, when the broadcast audio signal is Dolby Surround encoded. The sound effect can also be improved by connecting a suitable external amplifier (for details refer to “Connecting to external audio Equipment” on page 18).*

** *Manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic” and the double-D symbol ◻◻ are trademarks of Dolby Laboratories.*

Level 1 **Level 2** **Level 3 / Function**



MANUAL PROGRAMME PRESET

The “Manual Programme Preset” option in the “Set Up” menu allows you to:

a) Preset channels or the VCR channel one by one to the programme order of your choice. To do this:

i After selecting the ”Manual Programme Preset” option, press → then with **Programme** option highlighted press → . Press ↓ or ↑ to select on which programme number you want to preset the channel (for VCR, select programme number “0”). Then press ← .

ii The following option is only available depending on the country you have selected in the “Language/Country” menu.

After selecting the **System** option, press → . Then press ↓ or ↑ to select the TV Broadcast system (**B/G** for western European countries, **L** for France or **I** for United Kingdom). Then press ← .

iii After selecting the **Channel** option, press → . Then press ↓ or ↑ to select the channel tuning (“**C**” for terrestrial channel or “**S**” for cable channels). Next press → . After that, press the number buttons to enter directly the channel number of the TV broadcast or the channel of the VCR signal. If you do not know the channel number, press ↓ or ↑ to search for it. When you tune the desired channel, press **OK** twice to store.
Repeat all the above steps to tune and store more channels.

b) Label a channel using up to five characters.
To do this: Highlighting the **Programme** option, press the **PROG +/-** button to select the programme number with the channel you wish to name. When the programme you want to name appears on the screen, select the **Label** option and press → . Next press ↓ or ↑ to select a letter, number or “-“ for a blank. Press → to confirm this character. Select the other four characters in the same way. After selecting all the characters, press **OK** twice to store.

c) Fine tune the broadcast reception. Normally the automatic fine tuning (AFT) will give the best possible picture, however you can manually fine tune the TV to obtain a better picture reception in case the picture is distorted.
To do this: while watching the channel (TV Broadcast) you wish to fine tune, select the **AFT** option and press → . Next press ↓ or ↑ to adjust the fine tuning between -15 and +15. Finally press **OK** twice to store.

d) Skip any unwanted programme numbers when they are selected with the PROG +/- buttons.
To do this: Highlighting the **Programme** option, press the **PROG +/-** button to select the programme number you want to skip. When the programme you want to skip appears on the screen, select the **Skip** option and press → . Next press ↓ or ↑ to select **Yes**. Finally press **OK** twice to confirm and store.

To cancel this function afterwards, select “No” instead of “Yes” in the step above.

e) View and record scrambled channels when using a decoder connected to Scart ⇨3/⇦3 directly or through a VCR.

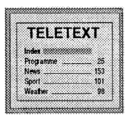
This option is only available depending on the country you have selected in the ‘Language/ Country’ menu.

To do this: select the **Decoder** option and press → . Next press ↓ or ↑ to select **On**. Finally press **OK** twice to confirm and store.
To cancel this function afterwards, select “Off” instead of “On” in the step above.

Teletext

Teletext is an information service transmitted by most TV stations. The index page of the teletext service (usually page 100) gives you information on how to use the service. To operate teletext, use the remote control buttons as indicated below.

⚠ Teletext errors may occur if you use a channel (TV Broadcast) with a weak signal.



To switch on Teletext:
After selecting the TV channel which carries the teletext service you wish to view, press ⊜.

To select a Teletext page:
Input 3 digits for the page number, using the numbered buttons.

- *If you make a mistake, retype the correct page number.*
- *If the counter on the screen continues searching, it is because the page is not available. If this is the case, input another page number.*

To access the next or preceding page:
Press **PROG +** (⊜▲) or **PROG -** (⊜▼).

To superimpose teletext on to the TV:
Whilst you are viewing teletext, press ⊜. Press it again to cancel teletext mode.

To freeze a teletext page:
Press ⇦/⊜. Press it again to cancel the freeze.

To reveal concealed information (e.g: answer to a quiz):
Press ⊞/?. Press it again to conceal the information.

To select a sub page:
A teletext page may consist of several sub pages. In this case the page number that appears on the upper left corner will change from white to green and one or more arrows will appear next to the page number. Repeatedly press the ← or → buttons on the remote control to watch the desired sub page.

To Switch Off Teletext:
Press ▢.

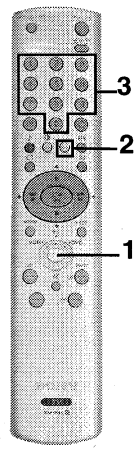
Fastext

Fastext service lets you access Teletext pages with one button push.
When you are in Teletext mode and Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press the appropriate coloured button (red, green, yellow or blue) to access the page corresponding to your menu choice.

Remote Control Configuration for VCR/DVD

In its default condition this remote control will operate the basic functions of this Sony TV, Sony DVDs and most Sony VCRs. To control VCRs and DVDs of other manufacturers (and some Sony VCR models), please complete the following steps:

- Before you start, look up the 3 digit code for your brand of DVD or VCR from the list below. On those brands that have more than one code, enter the first code number.
- Sony will endeavour to update the software according to market changes. Therefore, please refer to the code table included with the remote control for the latest code set.



1 Press the Media Selector button on the remote control repeatedly until the required green light (VCR or DVD) is lit.

⚠ If Media Selector is on TV position, code numbers will not be stored.

2 Before the green light goes out, press and hold the yellow button for approximately 6 seconds until the green light starts flashing.

3 Whilst the green light is flashing, enter all three digits of the code for your brand of VCR or DVD using the number buttons on the remote control.

ⓘ If your selected code is entered correctly, all three green lights will be lit momentarily.

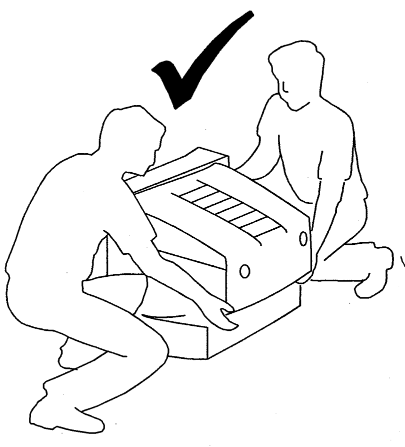
4 Turn on your VCR or DVD and check that the main functions work.

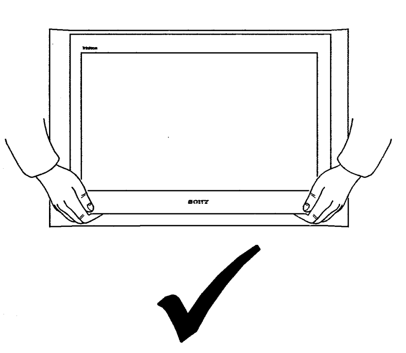
⚠
- If your device is not working or some of the functions do not work please check that you entered the correct code set or try the next code listed against the brand.
- Your brand codes may be lost if weak batteries are not replaced within a few minutes. To reset your brand of DVD or VCR please repeat the above steps. A small label is added inside the battery door to allow you to record your brand codes.
- Not all brands are covered and not all models of every brand may be covered.

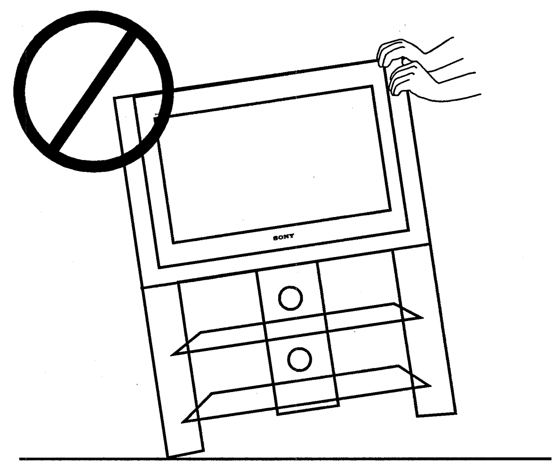
VCR Brand List		DVD Brand List	
Brand	**Code**	**Brand**	**Code**
SONY (VHS)	301, 302, 303, 308, 309	SONY	001
SONY (BETA)	303, 307, 310	AIWA	021
SONY (DV)	304, 305, 306	DENON	018, 027, 020, 002
AIWA	325, 331, 351	GRUNDIG	009, 028, 023, 024, 016, 003
AKAI	326, 329, 330	HITACHI	025, 026, 015, 004
DAEWOO	342, 343	JVC	006, 017
GRUNDIG	358, 355, 360, 361, 320, 351	KENWOOD	008
HITACHI	327, 333, 334	LG	015, 014
JVC	314, 315, 322, 344, 352, 353, 354, 348, 349	LOEWE	009, 028, 023, 024, 016, 003
		MATSUI	013, 016
LG	332, 338	ONKYO	022
LOEWE	358, 355, 360, 361, 320, 351	PANASONIC	018, 027, 020, 002
MATSUI	356, 357	PHILIPS	009, 028, 023, 024, 016, 003
ORION	328	PIONEER	004
PANASONIC	321, 323	SAMSUNG	011, 014
PHILIPS	311, 312, 313, 316, 317, 318, 358, 359	SANYO	007
		SHARP	019, 027
SAMSUNG	339, 340, 341, 345	THOMSON	012
SANYO	335, 336	TOSHIBA	003
SHARP	324	YAMAHA	018, 027, 020, 002
THOMSON	319, 350		
TOSHIBA	337		

Lifting the TV Set

4-094-189-11







http://www.sony.net/
Sony Corporation Printed in UK

Recyclable

Specifications

TV system:
I

Colour system:
PAL
SECAM, NTSC 3.58, 4.43 (only Video In)

Channel Coverage:
I: UHF B21-B69

Picture Tube:
Flat Display FD Trinitron WIDE:
•KV-32FX68U: 32" (approx. 82 cm. measured diagonally)
•KV-28FX68U: 28" (approx. 71 cm. measured diagonally)

Rear Terminals

⇨1/⇦1	21-pin scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/ video output.
⇨2/⇦2	21-pin Scart connector (CENELEC standard) including audio / video input, RGB input, monitor audio/video output.
⇨3/⇦S 3	21-pin Scart connector (SMARTLINK) (CENELEC standard) including audio / video input, S video input, selectable audio / video output and Smartlink interface.
⇨	Audio outputs (Left/Right) - phono jacks

Side Terminals

⇦S4	S Video input – 4 pin DIN
⇦4	video input – phono jack
⇦4	audio input – phono jacks
🎧	headphones jack

Sound Output:
2 x 20 W (music power)
2 x 10 W (RMS)
Woofer:
30 W (music power)
15 W (RMS)

Power Consumption:
KV-32FX68U: 130 W
KV-28FX68U: 125 W
Standby Power Consumption:
0.3 W

Dimensions (w x h x d):
KV-32FX68U: approx. 882 x 567 x 562 mm.
KV-28FX68U: approx. 797 x 519 x 523 mm.

Weight:
KV-32FX68U: approx. 65 Kg.
KV-28FX68U: approx. 45 Kg.

Accessories supplied:
1 Remote Control (RM-932)
2 Batteries (IEC designated)

Other features:
- 100 Hz picture
- Teletext, Fastext, TOPtext (250 page TEXT memory)
- Sleep Timer
- Smartlink (direct link between your TV set and a compatible VCR. For more information on Smartlink, please refer to the Instruction Manual of your VCR).
- Dolby Virtual.
- BBE Digital
- Auto Format.
- ACI (Auto Channel Installation).

Design and specifications are subject to change without notice.

Troubleshooting

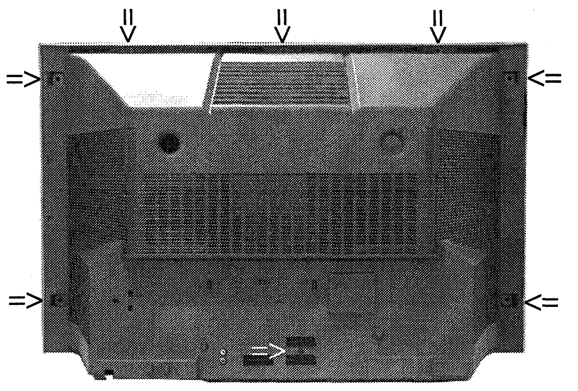
ⓘ Here are some simple solutions to problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark) and no sound.	• Check the aerial connection. • Plug the TV in and press the ⏻ button on the front of the TV. • If the standby indicator ⏻ is on, press **TV I/⏻** button on the remote control.
Poor or no picture (screen is dark), but good sound.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to the factory settings.
No picture or no menu information from equipment connected to the Scart connector.	• Check that the optional equipment is on and press the ⇦ button repeatedly on the remote control until the correct input symbol is displayed on the screen.
Good picture, no sound.	• Press the ◢+ button on the remote control. • Check that "TV Speakers" is "On" in the "Detail Set Up" menu. • Check that headphones are not connected.
No colour on colour programmes.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to factory settings.
Distorted picture when changing programmes or selecting teletext.	• Turn off any equipment connected to the Scart connector on the rear of the TV.
Picture slanted	• Using the menu system, select the "Picture Rotation" option in the "Detail Set Up" menu to correct the picture slant.
Noisy picture when viewing a TV channel.	• Using the menu system, select the "Manual Programme Preset" menu and adjust Fine Tuning (AFT) to obtain better picture reception. • Using the menu system, select the "Noise Reduction" option in the "Detail Set Up" menu and select "Auto" to reduce the noise in the picture.
No unscrambling or unstable picture whilst viewing a scrambled channel with a decoder connected through the Scart connector ⇨**3/⇦S3**.	• Using the menu system, select the "Set Up" menu. Then enter to "Detail Set Up" option and set "AV3 Output" to "TV". • Check that the decoder is not connected on the scart ⇨2/⇦2.
Remote control does not function.	• Check that the Media Selector on the remote control is set to the device you are using (VCR, TV or DVD). • If the remote control does not operate the VCR or DVD even when the Media Selector has been set correctly. Enter the necessary code set as explained on "Remote Control Configuration for VCR/DVD" chapter of this instruction manual. • Replace the batteries.
The standby indicator ⏻ on the TV flashes.	• Contact your nearest Sony service centre.

⚠ If you continue to experience problems, have your TV serviced by qualified personnel. Never open the casing yourself.

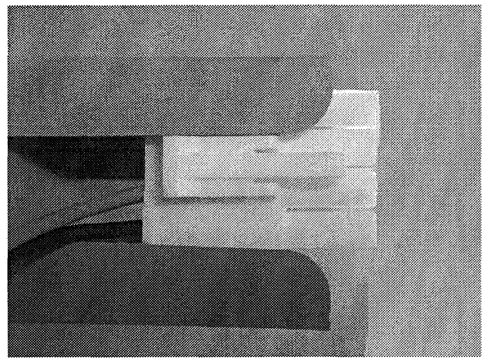
SECTION 2 DISASSEMBLY

2-1. Rear Cover Removal



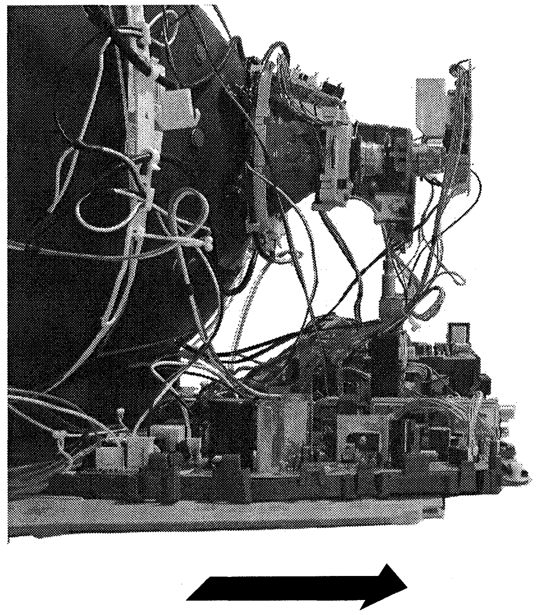
Remove the rear cover fixing screws indicated. Take care when removing the rear cover not to damage the speaker cables [Disconnect the speaker connector] as speakers are fitted inside the rear cover.

2-2. Speaker Connector Disconnection

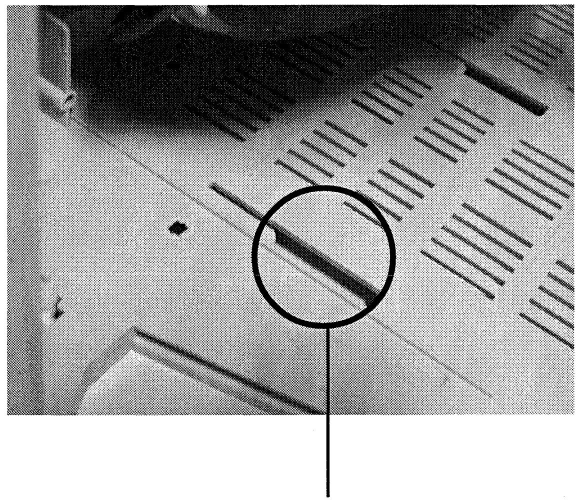


Before completely removing the rear cover disconnect the speaker connector which is located on the inside.

2-3. Chassis Removal and Refitting

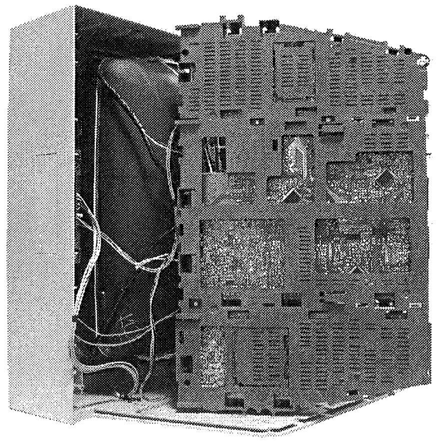


To remove lift the main bracket rear slightly and slide the chassis away from the beznet. Ensure that the interconnecting leads are released from their purse locks to prevent damage being caused.



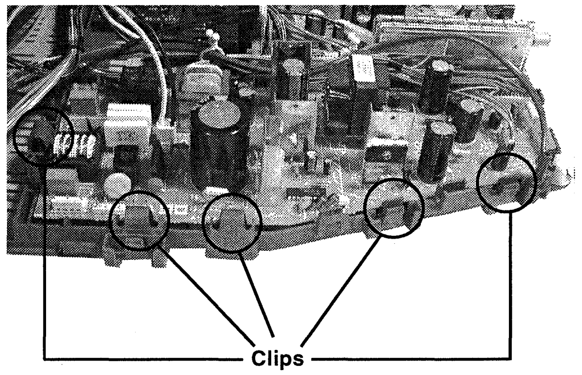
When refitting the chassis ensure that the main bracket is located in the beznet guide slots before sliding the chassis forwards. Refit the interconnecting leads in their respective purse locks.

2-4. Service Position



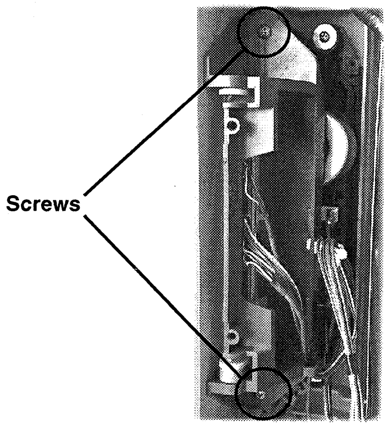
Position the chassis as indicated to access the solder side. To gain access to the underside of the boards follow the instructions on page 17. [Removal and Replacement of the main bracket bottom plates].

2-5. G Board Removal



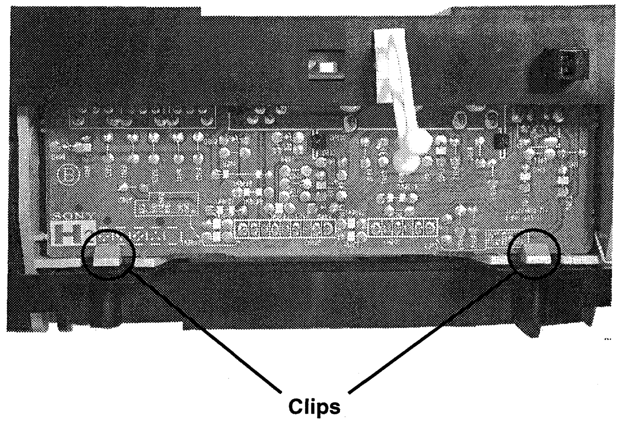
To remove the G Board release the clips circled and ease the board gently away from the support bracket. Removal of the D board follows the same procedure.

2-6. Side Control Module Removal



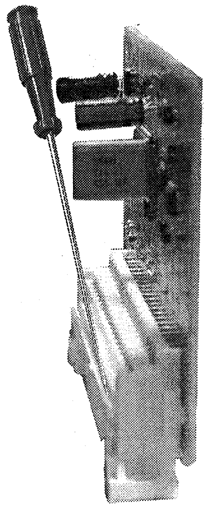
Remove the two screws fixing the user control module to the side of the set. The control module can then be removed by sliding it towards the rear of the set allowing access to the H2 Board.

2-7. H2 Board Removal



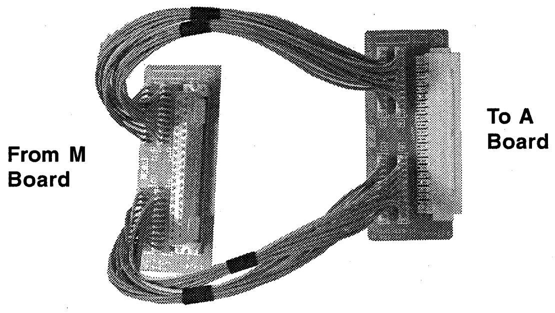
To remove the H2 Board release the two clips circled and ease the board gently away from the support bracket.

2-8. M Board Removal



To remove the M Board gently release the two clips with a screwdriver and remove the board from its socket vertically.

2-9. Service Connector for M Board



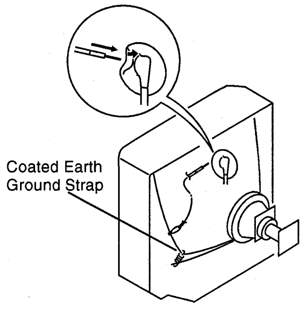
Extender Board Assembly A-1642-293-A

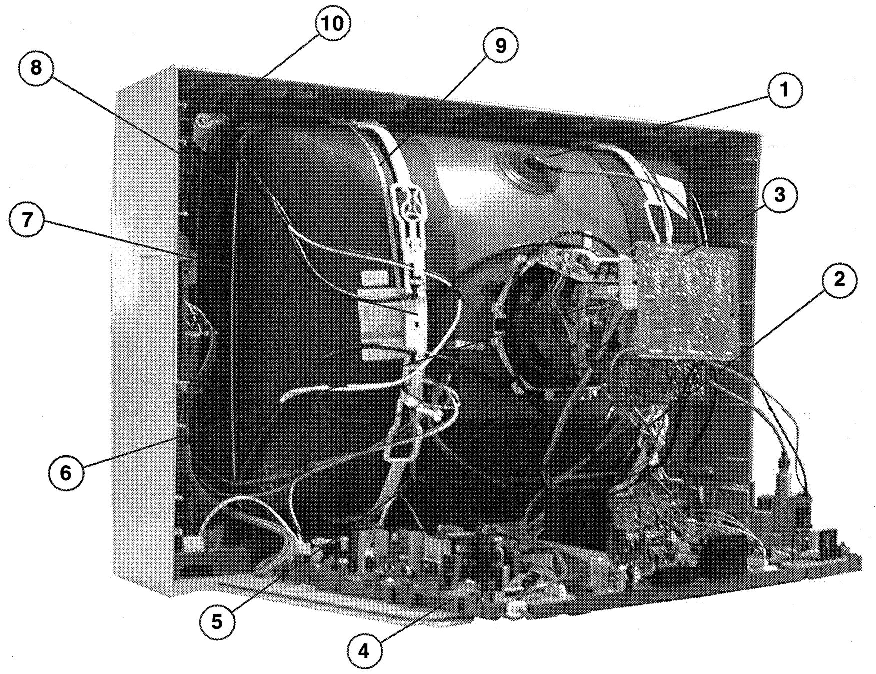
If the M Board needs to be removed for testing when the chassis is placed in its service position, it would be necessary to use an extender board and extension cable as indicated above.
The Extender board and extension cable are available as a service part by ordering the part number as indicated.

2-10. Picture Tube Removal

WARNING:
BEFORE REMOVING
THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT *before* attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

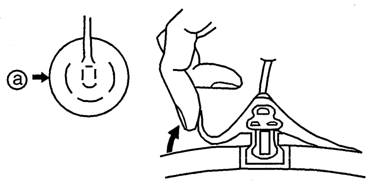




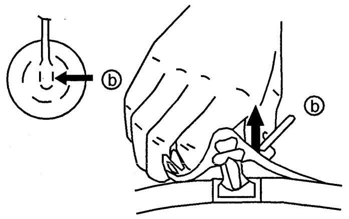
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the Deflection yoke, neck assy, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the Neck assembly fixing screw and remove.
6. Loosen the Deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the Degaussing Coil holders.
8. Remove the Degaussing Coils.
9. Remove the CRT grounding strap and spring tentioners.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT.
[Take care not to handle the CRT by the neck.]

Removal of the Anode-Cap

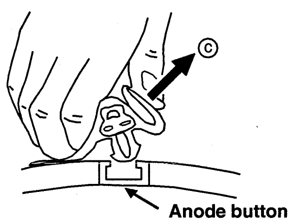
*** REMOVING PROCEDURES.**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ



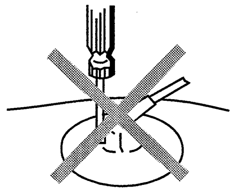
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

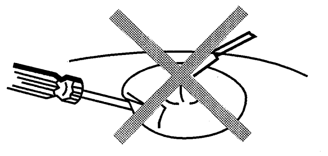


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

How to handle the Anode-Cap

1. To prevent damaging the surface of the anode-cap do not use sharp materials.
2. Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
3. A metal fitting called a shatter hook terminal is fitted inside the rubber cap.
4. Do not turn the rubber foot over excessively, this may cause damage if the shatter hook sticks out.



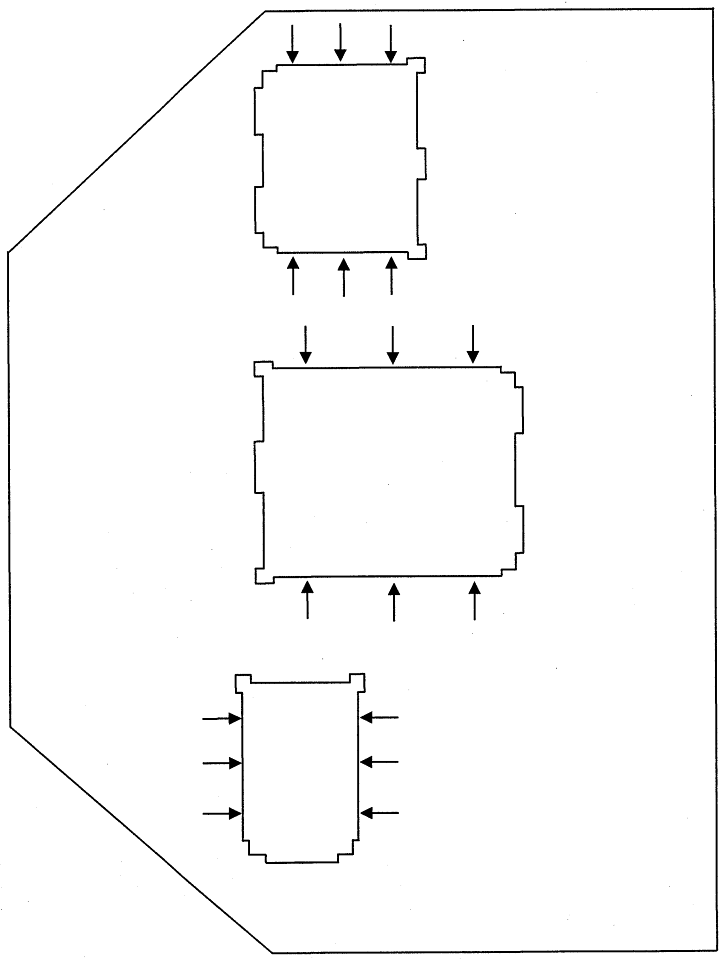


REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the printed wiring boards, the bottom plates fitted to the main chassis bracket require to be removed.
This is performed by cutting the gates with a sharp wire cutter at the locations indicated by the arrows.

Note : There are 3 plates fitted to the main bracket.
Only remove the necessary plate to gain access to the printed wiring board.

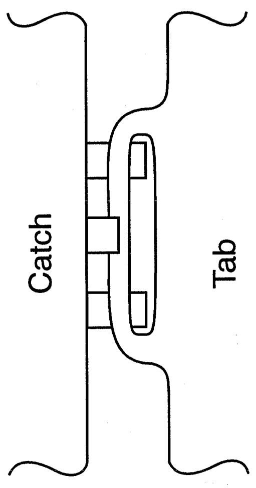


⚠ For safety reasons, on no account should the plates be removed and not refitted after servicing.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from their cut position to allow the tabs to be fitted into their catch positions.



- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast .... normal

Brightness .... normal

Carry out the adjustments in the following order :

3-1. Beam Landing.
3-2. Convergence.
3-3. Focus.
3-4. White Balance.

Note : Test equipment required.
1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.

3-1. Beam Landing

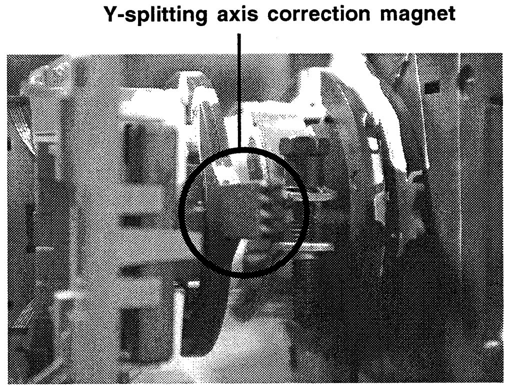
Preparation :

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the TV set's power and degauss with a degausser.

(1) Adjustment of Correction Magnet for Y-Splitting Axis.

1. Input a crosshatch signal from the pattern generator.
2. Set the Picture control to minimum and confirm that the Brightness control is set to normal.
3. Position the neck assembly as indicated in Fig.3-2.
4. Loosen the deflection yoke fixing screw.
5. Move the deflection yoke as far forward as is possible.
6. Adjust the upper and lower pin symmetrically by opening or closing the Y-splitting axis correction magnets located on the neck assembly. [See Fig 3-3]
7. Return the deflection yoke to its original position and re-tighten its fixing screw.

Fig.3-1



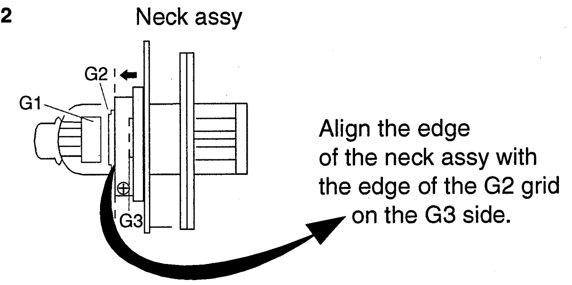
Caution :

High voltages are present on the Deflection yoke terminals - take care when handling the Deflection yoke whilst carrying out adjustments.

(2) Landing

Note : Before carrying out the following adjustments adjust the magnets as indicated [See Fig.3-4].
1. Input a crosshatch signal from the signal generator.
2. Rough-adjust the focus and horizontal convergence.
3. Switch from the crosshatch pattern to an all-red pattern.
4. Move the deflection yoke backwards and adjust with the purity magnet so that the red is at the centre and it aligns symmetrically [See Fig.3-5].
5. Move the deflection yoke forward to the point where the entire screen just becomes red [Mark its position].
6. Move the deflection yoke further forward until the screen just changes colour at the edges. [Mark its position]
7. Position the deflection yoke between the two marks indicated above.
8. Input a crosshatch pattern from the pattern generator and rotate the deflection yoke so that the horizontal lines are parallel with the top and bottom of the screen.
9. When the position of the deflection yoke has been determined, fasten it with its fixing screw.
10. Switch the pattern generator to green then blue and confirm the purity.
11. If the beam does not land correctly in all the corners of the screen, use disk magnets to correct it. [Confirm the corner landing for green and blue]

Fig.3-2


Neck assy
G2
G1
G3
Align the edge of the neck assy with the edge of the G2 grid on the G3 side.

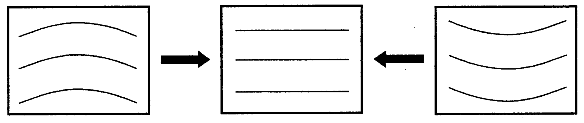
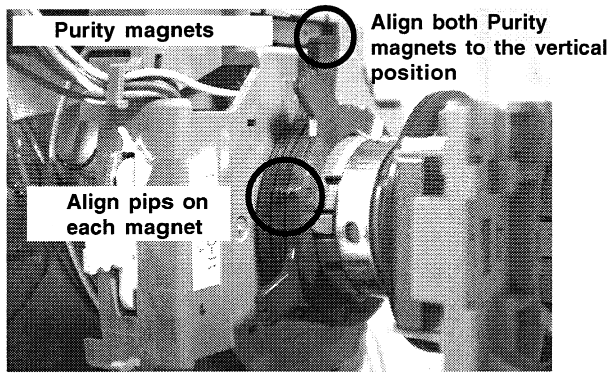


Fig.3-3

Fig.3-4


Purity magnets
Align both Purity magnets to the vertical position
Align pips on each magnet

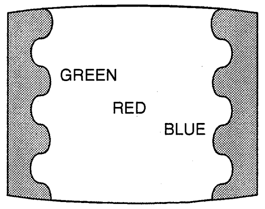
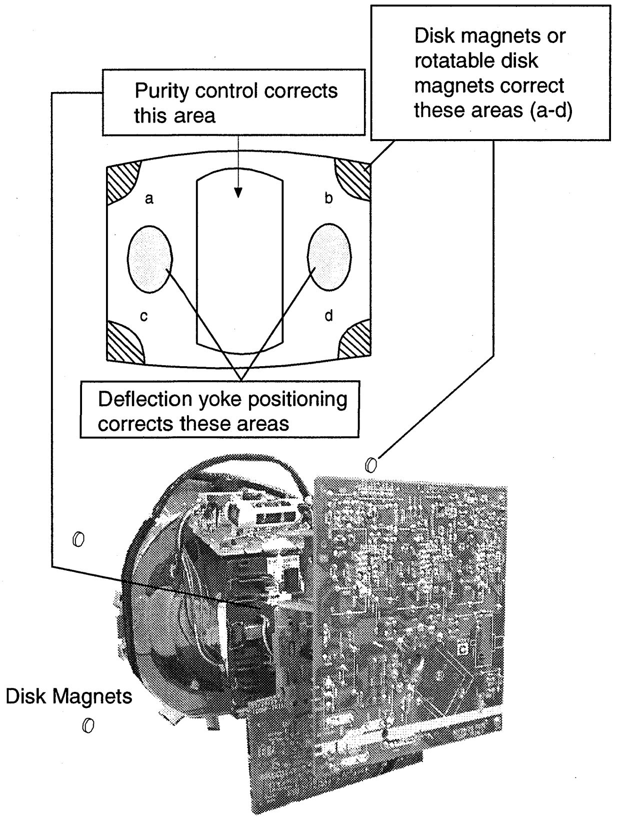
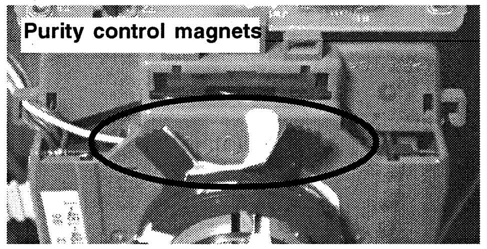

GREEN
RED
BLUE

Fig.3-5

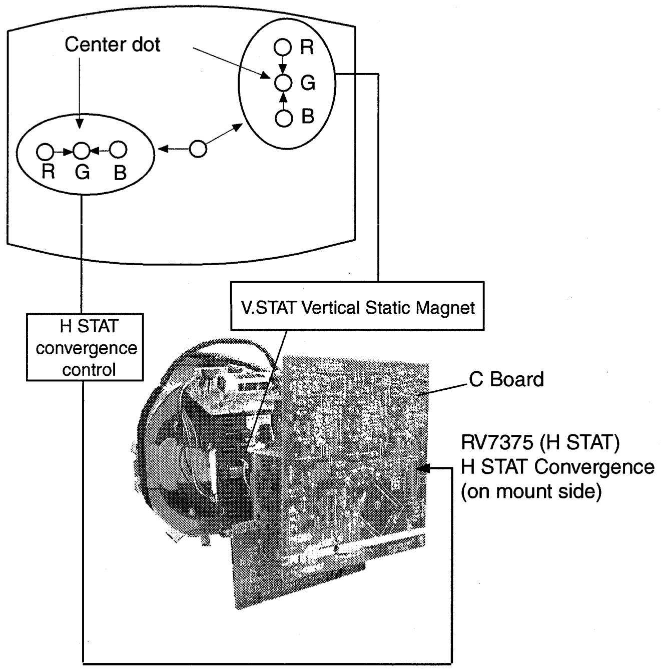

Disk magnets or rotatable disk magnets correct these areas (a-d)
Purity control corrects this area
a
b
c
d
Deflection yoke positioning corrects these areas
Disk Magnets


Purity control magnets

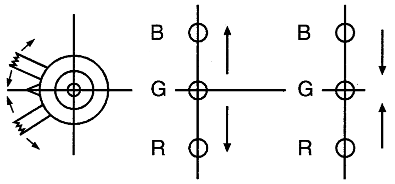
3-2. Convergence

(1) Screen centre convergence [Static convergence]

1. Input a dot pattern signal from the pattern generator.
2. Normalize the picture setting.
3. [Moving vertically], adjust the V.STAT magnet so that the vertical red, green and blue dots coincide at the centre of the screen.


Center dot
R
G
B
R G B
H STAT convergence control
V.STAT Vertical Static Magnet
C Board
RV7375 (H STAT)
H STAT Convergence
(on mount side)

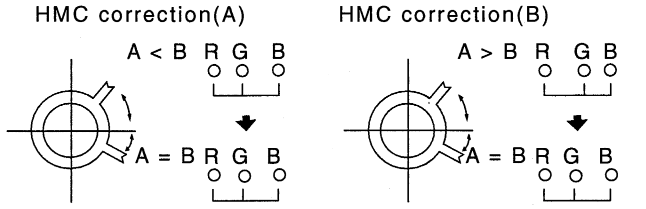
By opening or closing the V.STAT magnet, the red green and blue dots move in the direction indicated below.



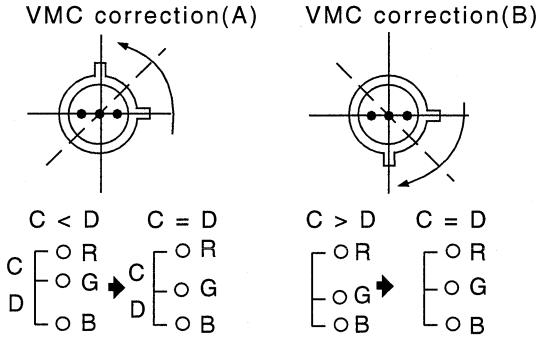
Note: Do not adjust the H.STAT by rotating the V.STAT magnets as this can affect the focus setting.

4. Correction for HMC [Horizontal mis-convergence] and VMC [Vertical mis-convergence] by using the BMC [Hexapole] magnet.

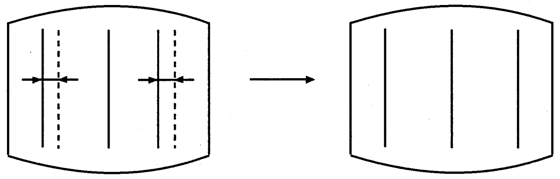
a). HMC correction by BMC [Hexapole] magnet and movement of the electron beam.


HMC correction(A)
A < B R G B
A = B R G B
HMC correction(B)
A > B R G B
A = B R G B

b). VMC correction by BMC [Hexapole] magnet and movement of the electron beam.

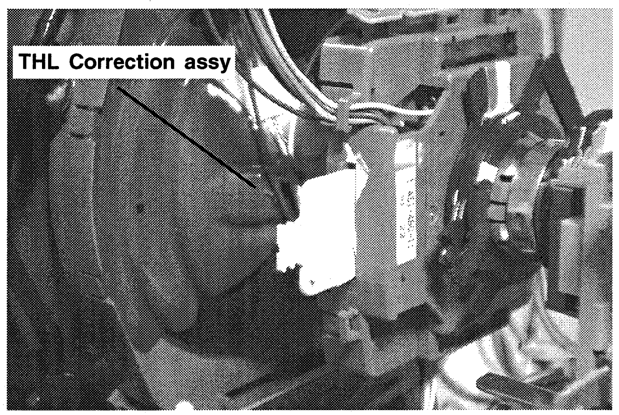

VMC correction(A)
VMC correction(B)
C < D
C = D
C > D
C = D
C
D
R
G
B
C
D
R
G
B
R
G
B
R
G
B

HAMP Adjustment

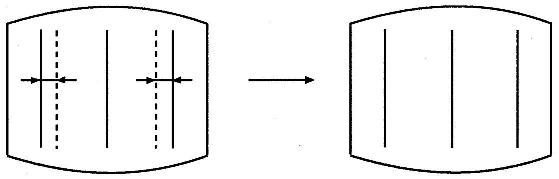


Adjust the HAMP using HAMPL and HAMPR registers in the Dynamic Convergence section of the service menu.

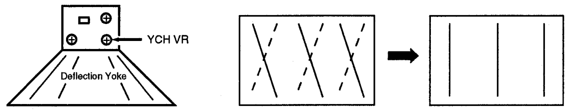
HTIL Adjustment


THL Correction assy

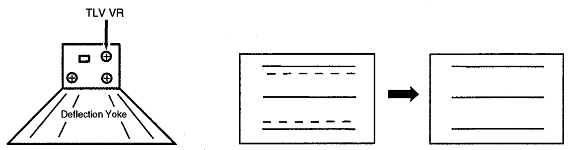
HTIL correction can be performed by adding a THL correction assembly to the Deflection yoke.



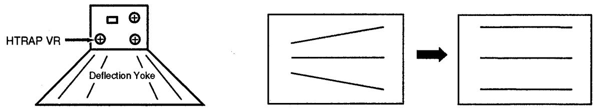
YCH Adjustment


YCH VR
Deflection Yoke

TLV Adjustment

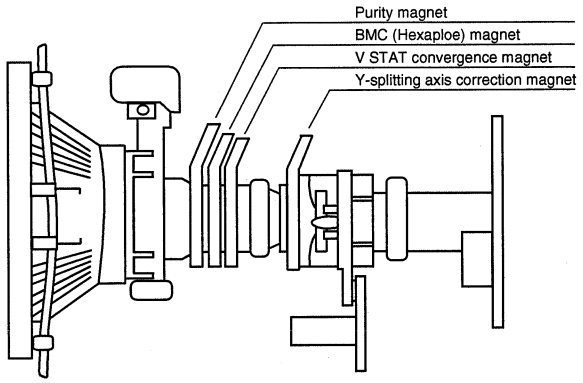

TLV VR
Deflection Yoke

H-TRAP Adjustment

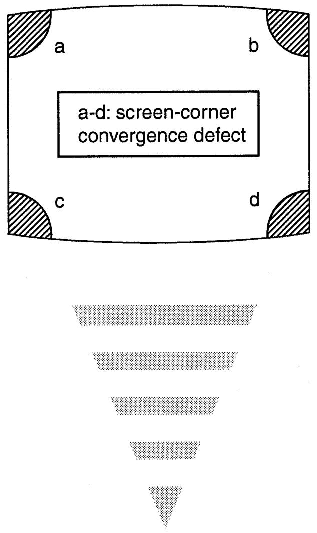

HTRAP VR
Deflection Yoke

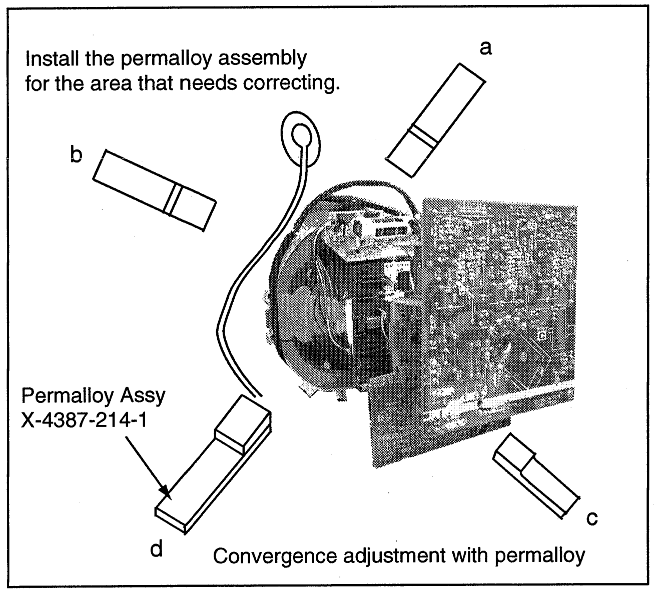
The H-TRAP should not be adjusted unless absolutely necessary as it affects the TLV settings.

Layout of each control



Note : If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloy magnets.

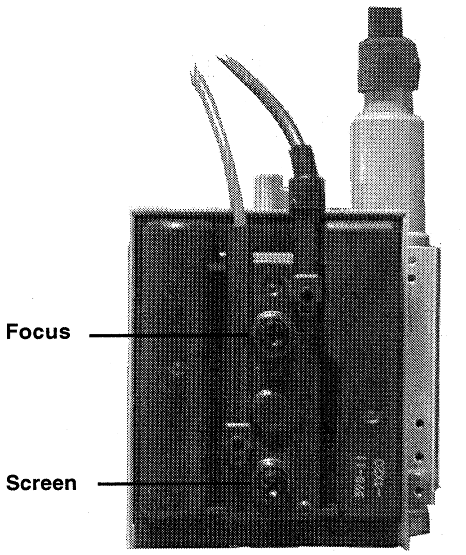



Install the permalloy assembly for the area that needs correcting.
a
b
Permalloy Assy X-4387-214-1
c
d

Convergence adjustment with permalloy

3-3. Focus Adjustment

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.
   Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



3-4. Screen (G2), White Balance

[Adjustment in the service mode using the remote commander]

G2 adjustment

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 165V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control [SCREEN] located on the flyback transformer to the point just before the flyback return lines disappear.

White balance adjustment for TV mode

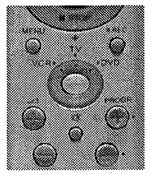
1. Input an all-white signal from the pattern generator.
2. Program the Remote Commander for operation in Service Mode. [See Page 22].
3. Enter into the 'Service Mode' by pressing 'VIDEO' button twice and 'MENU' on the Service Commander.
4. Select 'Service' from the on screen menu display and press 'Right Arrow'.
5. The 'Service' menu will appear on the screen.[See Page 23]
6. Set the 'Contrast' to MAX.
7. Set the 'R-Drive' to 50.
8. Adjust the 'G-Drive' and the 'B-Drive' so that the white balance becomes optimum.
9. Press the 'OK' button to write the data for each item.
10. Set the 'Contrast' to MIN.
11. Set the 'R-Cutoff' to 29.
12. Adjust the 'G-Cutoff', and the 'B-Cutoff' with the left and right buttons on the remote commander so that the white balance becomes optimum.
13. Press the 'OK' button to write the data for each item.

SECTION 4 CIRCUIT ADJUSTMENTS

4-1. Electrical Adjustments

Service adjustments to this model can be performed using the supplied remote Commander RM-932.

Programming the Remote Commander for Operation in Service Mode



1. Press the VCR/TV/DVD button until the TV LED lights.
2. Press and hold the yellow button for approx. 5 seconds until the TV LED flashes quickly.
3. Press 99999. All three LED's should light. The remote commander is now set to Service Mode.
4. To return the remote commander to normal operation mode repeat steps 1. and 2. then press 00000. All three LED's should light. The remote commander is now set to normal mode.

Setting the TV into Service Mode

1. Program the remote commander for operation in Service Mode as described above.
2. Turn on the TV main power switch.
3. Press the video standby button on the remote commander twice.
   'TT__' will appear in the upper right corner of the screen. Other status information will also be displayed.
4. Press 'MENU' on the remote commander to obtain the following menu on the screen.

Geometry
Panorama
Service
Scanrate
DAC
PiP
Sound
IF adjust
Error Menu

AE6B Wide v2.21 (Jan 2002)
Factory data 02h 16h
MSP Device : MSP3411G

5. Move to the corresponding adjustment item using the up or down arrow buttons on the Remote Commander.
6. Press the right arrow button to enter into the required menu item.
7. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

Note :

- After carrying out the service adjustments, to prevent the customer accessing the 'Service Menu' switch the TV set OFF and then ON.

GEOMETRY		
ABL TH	(0, 3)	0
ABL MODE	(0, 3)	0
P ABL	(0, 15)	15
V SIZE	(0, 63)	35
V POSITION	(0, 63)	33
V COMP	(0, 3)	1
V LIN	(0, 15)	7
S CORRECTION	(0, 15)	7
H SIZE	(0, 63)	44
PIN AMP	(0, 63)	32
UP CORNERPIN	(0, 63)	29
M PIN	(0, 3)	2
LO CORNERPIN	(0, 63)	29
TRAPEZIUM	(0, 15)	2
H POSITION	(0, 63)	40
AFC BOW	(0, 15)	8
AFC ANGLE	(0, 15)	9
LEFT BLK	(0, 63)	34
RIGHT BLK	(0, 63)	17
V ASPECT	(0, 63)	47
AKBTIM1	(0, 3)	2
AKBTIM2	(0, 1)	0
IKR		*1*
HNG		*0*
VNG		*0*

PANORAMA		
HORWIDTH H	(0, 7)	1
HORWIDTH L	(0, 255)	170
HORPOS H	(0, 7)	0
HORPOS L	(0, 255)	15
NAPPLIP H	(0, 7)	1
NAPPLIP L	(0, 127)	62
HSCPOSC H	(0, 15)	8
HSCPOSC L	(0, 255)	151
BLANDEL	(0, 255)	13
BLANLEN	(0, 255)	207
BLANPOL	(0, 1)	0
HSEG1 H	(0, 7)	0
HSEG1 L	(0, 255)	96
HSEG2 H	(0, 7)	0
HSEG2 L	(0, 255)	192
HSEG3 H	(0, 7)	0
HSEG3 L	(0, 255)	224
HSEG4 H	(0, 7)	1
HSEG4 L	(0, 255)	64
HINCO H	(0, 1)	0
HINCO L	(0, 255)	40
HINC1 H	(0, 1)	0
HINC1 L	(0, 255)	20
HINC2 H	(0, 1)	0
HINC2 L	(0, 255)	0
HINC3 H	(0, 1)	1
HINC3 L	(0, 255)	236
HINC4 H	(0, 1)	1
HINC4 L	(0, 255)	216

IF ADJUST

Automute	1
Audio Gain	0
L Gating	0

SERVICE

SUB COL	(0, 63)	Adj
SUB HUE	(0, 63)	31
SUB SHARP	(0, 63)	30
SUB BRIGHT	(0, 63)	13
SUB CONT	(0, 15)	12
R-DRIVE	(0, 63)	50
G-DRIVE	(0, 63)	Adj
B-DRIVE	(0, 63)	Adj
R CUTOFF	(0, 63)	28
G CUTOFF	(0, 63)	24
B CUTOFF	(0, 63)	46
Br TXT	(0, 15)	7
Br OSD	(0, 15)	10

DAC

CONFIG	*00000000*	
MPIN CONT	(0, 255)	96
HLIN	(0, 255)	83
HTRAP	(0, 255)	127
ROT. COIL	(0, 255)	130
PHOCUS PH	(0, 255)	90

SOUND

M-N	(0, 511)	200
M-D	(-128, -1)	-20
M-S	(+0, +127)	+20
S-M	(+0, +127)	+10
D-M	(-128, -1)	-10
N-M	(0, 1023)	496
BBE	(+0, +68)	+28
B1	(-96, +96)	+0
B2	(-96, +96)	+0
B3	(-96, +96)	+0
B4	(-96, +96)	+0
B5	(-96, +96)	+0
SW L	(-128, +0)	+0
SW F	(+5, +40)	+30
NICAM C AD	10001	
NICAM Error	(0, 2047)	0
Stereo	(-128, +127)	+0
Status	0000000110	

ERROR MENU

E02	OCP	(0, 255)	0
E03	OVP	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	0
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	HPROT	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	-	(0, 255)	0
E12	SCANRATE	(0, 255)	0
E13	DAC	(0, 255)	0
E14	BACKEND	(0, 255)	0
E15	DYN CON	(0, 255)	0
E16	PIP	(0, 255)	0

WORKING TIME

HOURS	14
MINUTES	7

Sub Brightness Adjustment

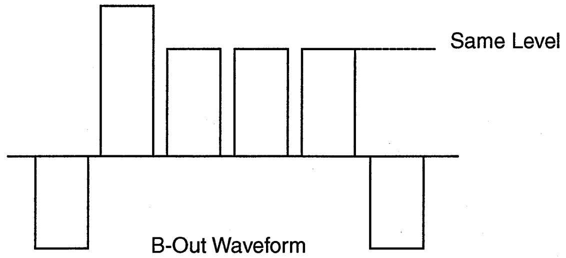
1. Input a Monoscope pattern.
2. Program the Remote Commander for operation in Service Mode. [See Page 22].
3. Press 'VIDEO' 'VIDEO' 13 on the Remote Commander.
4. Adjust the 'Sub-Brightness' data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

Sub Contrast Adjustment

1. Input a video signal that contains a small 100% white area on a black background.
2. Connect an digital voltmeter to Pin 10 of J7375 [C Board].
3. Program the Remote Commander for operation in Service Mode. [See Page 22].
4. Adjust the Sub-Contrast [Using 'VIDEO' 'VIDEO' '11'] to obtain a voltage of 105 +/- 5V.

Sub Colour Adjustment

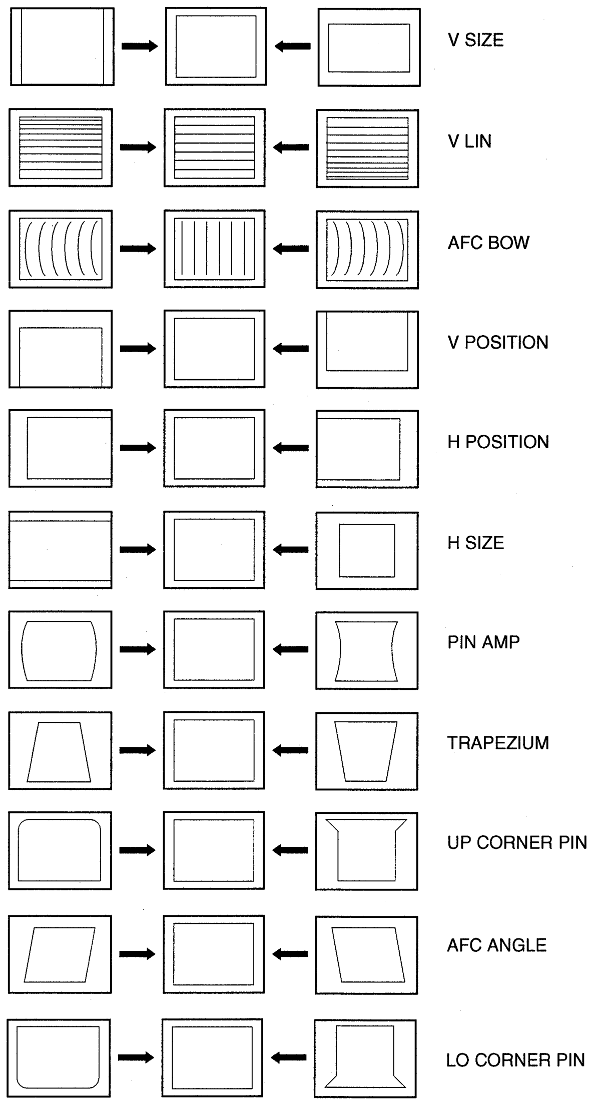
1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 6 of CN7001 [A Board].
3. Program the Remote Commander for operation in Service Mode. [See Page 22].
4. Adjust the 'Sub Colour' [Using 'VIDEO' 'VIDEO' '12'] so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.



B-Out Waveform

Deflection System Adjustment

1. Program the Remote Commander for operation in Service Mode. [See Page 22] and enter into the 'Geometry' service menu.
2. Select and adjust each item in order to obtain the optimum image.



GEOMETRY

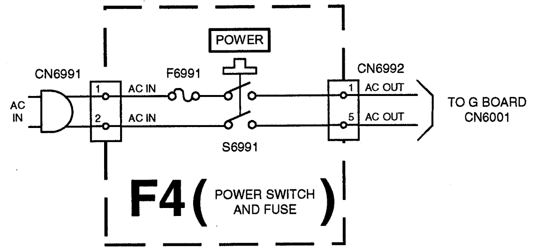
ABL TH	(0, 3)	0
ABL MODE	(0, 3)	0
P ABL	(0, 15)	15
V SIZE	(0, 63)	35
V POSITION	(0, 63)	33
V COMP	(0, 3)	1
V LIN	(0, 15)	7
S CORRECTION	(0, 15)	7
H SIZE	(0, 63)	44
PIN AMP	(0, 63)	32
UP CORNERPIN	(0, 63)	29
M PIN	(0, 3)	2
LO CORNERPIN	(0, 63)	29
TRAPEZIUM	(0, 15)	2
H POSITION	(0, 63)	40
AFC BOW	(0, 15)	8
AFC ANGLE	(0, 15)	9
LEFT BLK	(0, 63)	34
RIGHT BLK	(0, 63)	17
V ASPECT	(0, 63)	47
AKBTIM1	(0, 3)	2
AKBTIM2	(0, 1)	0
IKR	*1*	
HNG	*0*	
VNG	*0*	

4-2. TEST MODE 2:

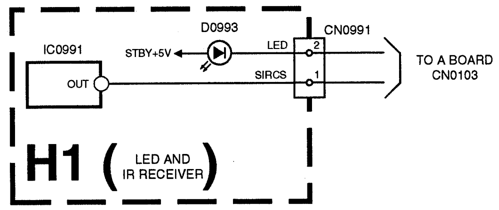
Test Mode 2 is available by rogramming the Remote Commander for operation in Service Mode [As shown on Page 22] then pressing the 'VIDEO' button twice, OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release the 'Test mode 2', press 00, 10, 20 ... twice or switch the TV set into Stand-by mode. In 'TT Menu' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the Menu to reappear. The function is kept even when the menu is not displayed on screen !!.

00	'TT' mode off
01	Picture maximum
02	Picture minimum
03	Set speaker/headphone Volume to 35%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing mode
08	Shipping Condition
11	Sub picture adjustment
12	Sub colour adjustment
13	Sub Brightness adjustment
14	Text H Position adjustment
15	Rotation Coil Test
16	Picture level 50%
19	Factory Mode Enable/Disable
21	Destination ADEKR
22	Destination BL
23	Destination ADEKR
24	Destination U
25	Destination ADEKR
26	Destination BL
27	Destination ADEKR
28	Destination ADEKR
31	Auto Shutoff Enable/Disable
36	Velocity Modulation (VM) OFF/ON test
41	Re-initialise NVM
43	Select Dual A sound
44	Select Dual B sound
45	Select Mono sound
46	Select Stereo sound
48	Set NVM as non virgin
49	Set NVM as virgin
53	FM Overmodulation Enable/Disable
55	Tuner selection (SONY/ALPS)
59	Select Model 3 Scarts + PIP or 2 Scarts
68	Enable/Disable X26 countermeasure (N problem)
73	Enable Zweiton D/K2 system (6.5/6.74)
74	Enable Zweiton D/K3 system (6.5/5.74)
78	Balance full right
79	Balance full left
87	Local keys test
99	Display Error and Working Time menu

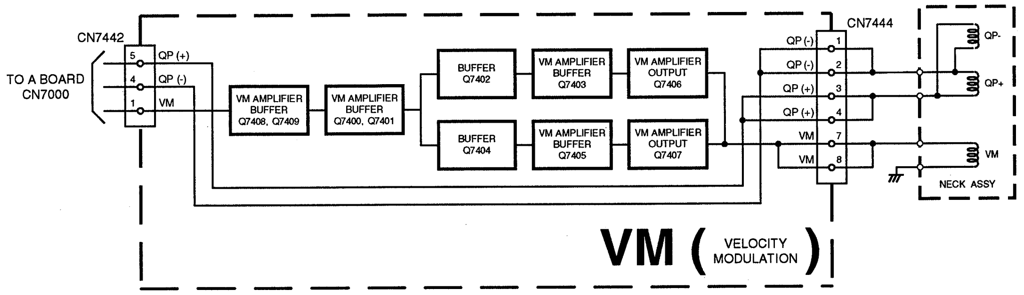
5-1. BLOCK DIAGRAMS (1)



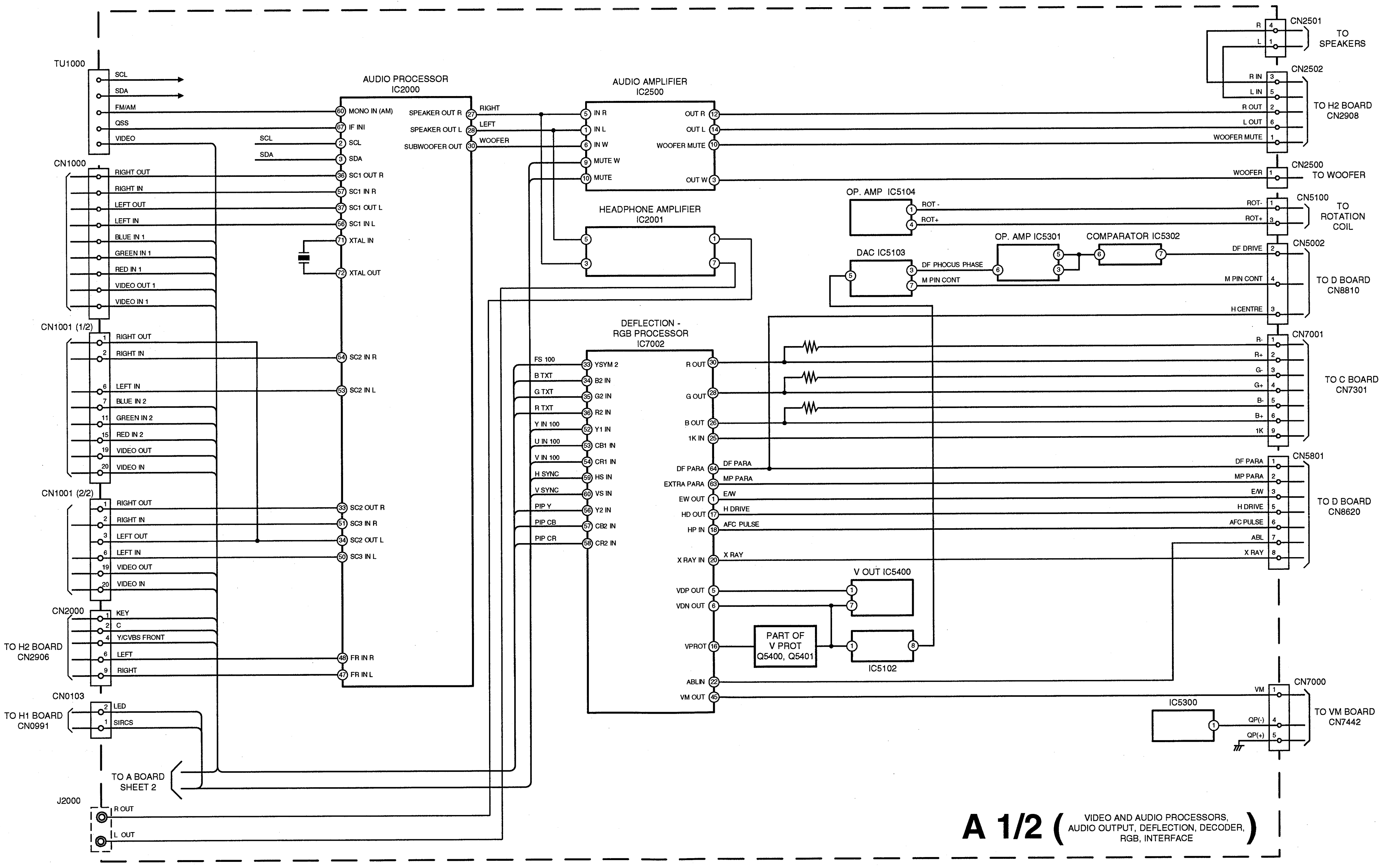
CN6991
AC IN
AC IN
AC IN
F6991
POWER
S6991
CN6992
AC OUT
AC OUT
TO G BOARD CN6001
F4 (POWER SWITCH AND FUSE)



D0993
CN0991
IC0991
STBY+5V
LED
SIRCS
OUT
TO A BOARD CN0103
H1 (LED AND IR RECEIVER)

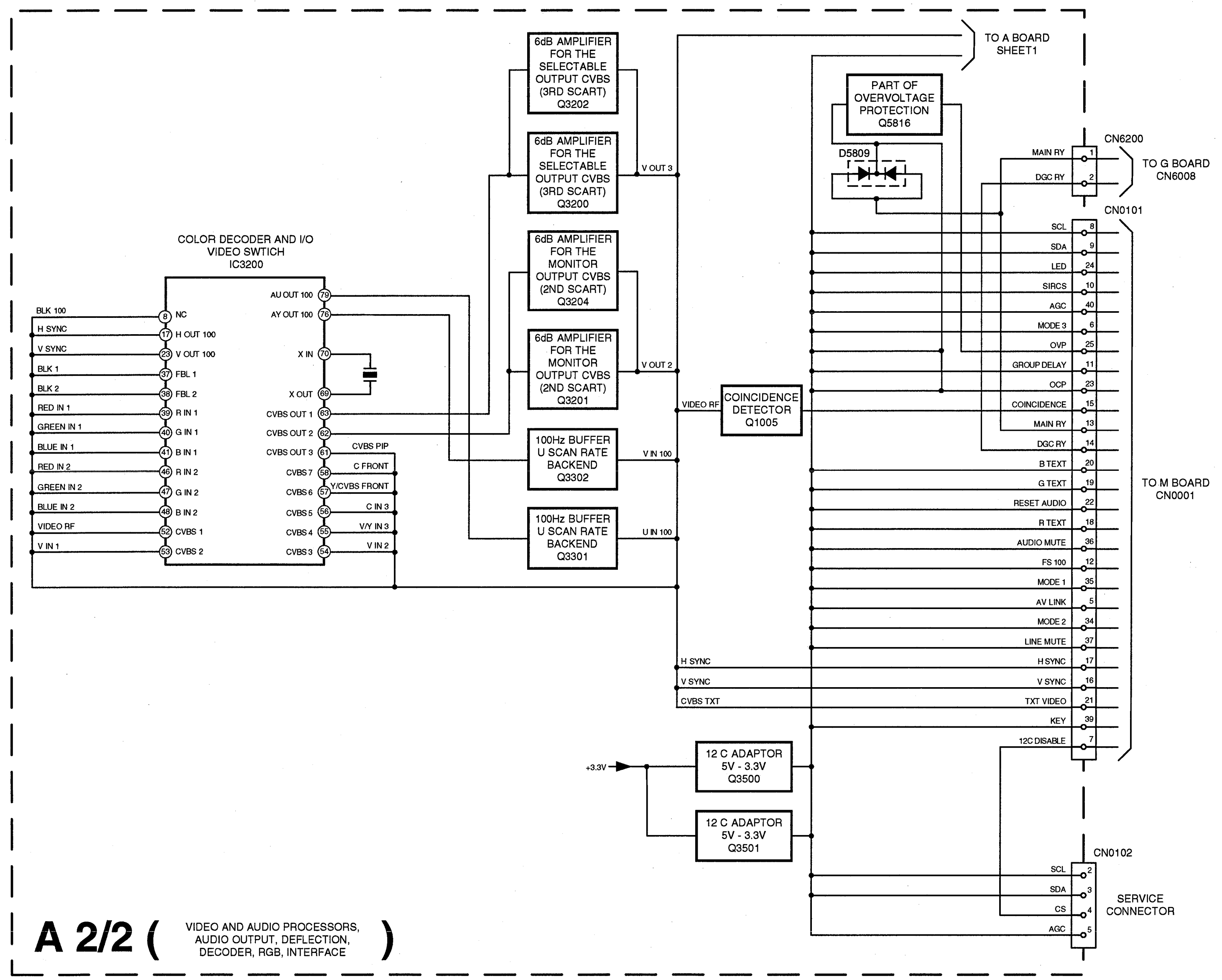


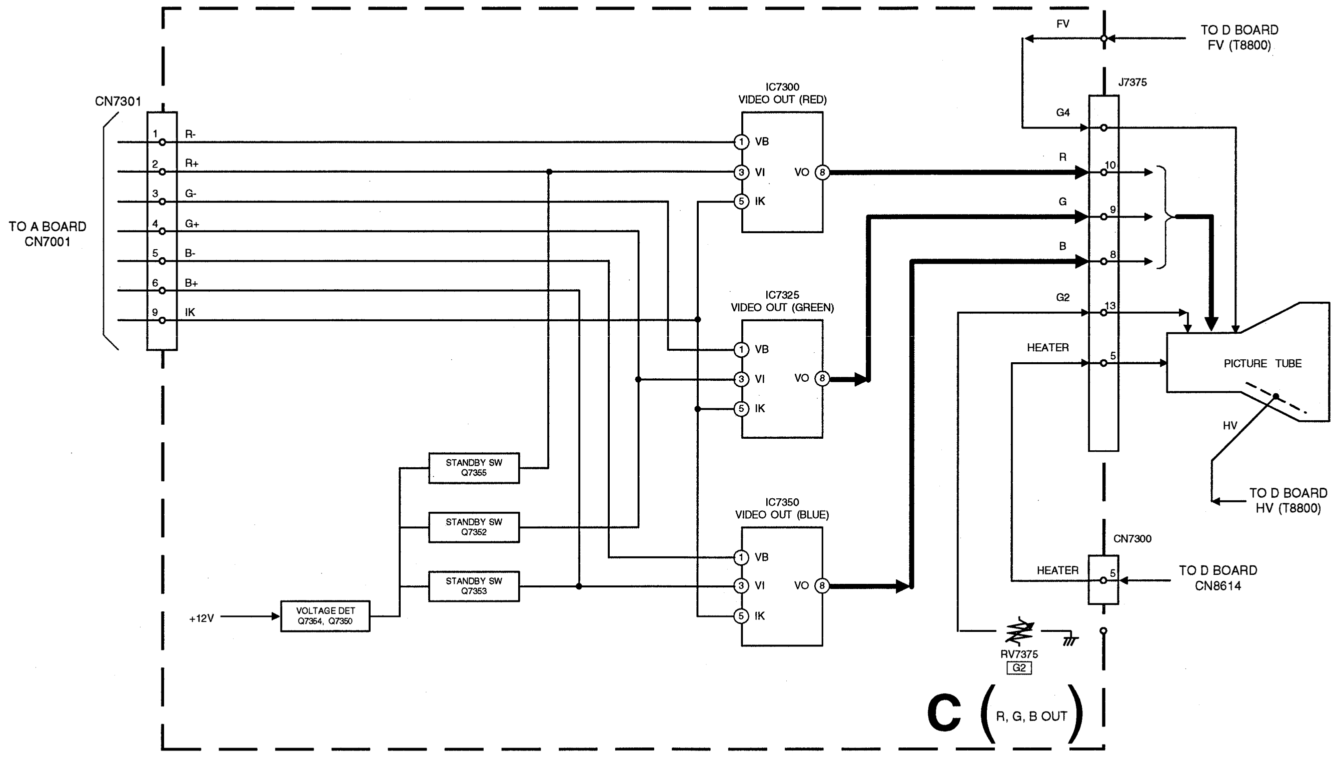
CN7442
TO A BOARD CN7000
QP (+)
QP (-)
VM
VM AMPLIFIER BUFFER Q7408, Q7409
VM AMPLIFIER BUFFER Q7400, Q7401
BUFFER Q7402
BUFFER Q7404
VM AMPLIFIER BUFFER Q7403
VM AMPLIFIER BUFFER Q7405
VM AMPLIFIER OUTPUT Q7406
VM AMPLIFIER OUTPUT Q7407
CN7444
QP (-)
QP (+)
VM
QP-
QP+
VM
NECK ASSY
VM (VELOCITY MODULATION)

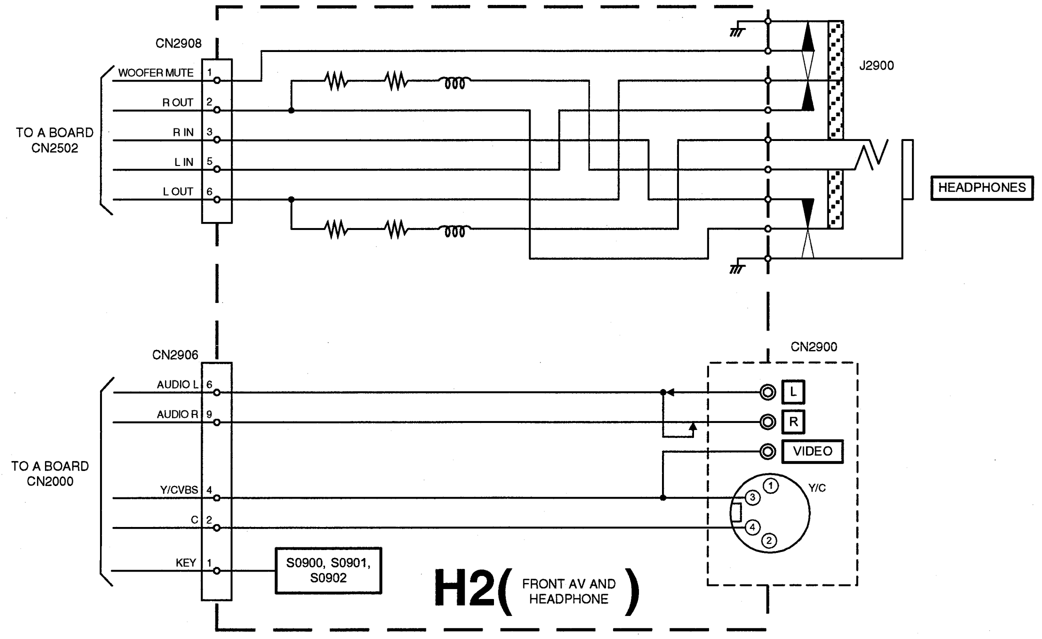


TU1000
SCL
SDA
FM/AM
QSS
VIDEO
CN1000
RIGHT OUT
RIGHT IN
LEFT OUT
LEFT IN
BLUE IN 1
GREEN IN 1
RED IN 1
VIDEO OUT 1
VIDEO IN 1
CN1001 (1/2)
RIGHT OUT
RIGHT IN
LEFT IN
BLUE IN 2
GREEN IN 2
RED IN 2
VIDEO OUT
VIDEO IN
CN1001 (2/2)
RIGHT OUT
RIGHT IN
LEFT OUT
LEFT IN
VIDEO OUT
VIDEO IN
CN2000
KEY
C
Y/CVBS FRONT
LEFT
RIGHT
TO H2 BOARD CN2906
CN0103
LED
SIRCS
TO H1 BOARD CN0991
TO A BOARD SHEET 2
J2000
R OUT
L OUT
AUDIO PROCESSOR IC2000
MONO IN (AM)
IF IN1
SCL
SDA
SC1 OUT R
SC1 IN R
SC1 OUT L
SC1 IN L
XTAL IN
XTAL OUT
SC2 IN R
SC2 IN L
SC2 OUT R
SC3 IN R
SC2 OUT L
SC3 IN L
FR IN R
FR IN L
SPEAKER OUT R
SPEAKER OUT L
SUBWOOFER OUT
RIGHT
LEFT
WOOFER
AUDIO AMPLIFIER IC2500
IN R
IN L
IN W
MUTE W
MUTE
OUT R
OUT L
WOOFER MUTE
OUT W
HEADPHONE AMPLIFIER IC2001
DEFLECTION - RGB PROCESSOR IC7002
FS 100
B TXT
G TXT
R TXT
Y IN 100
U IN 100
V IN 100
H SYNC
V SYNC
PIP Y
PIP CB
PIP CR
YSYM 2
B2 IN
G2 IN
R2 IN
Y1 IN
CB1 IN
CR1 IN
HS IN
VS IN
Y2 IN
CB2 IN
CR2 IN
R OUT
G OUT
B OUT
1K IN
DF PARA
EXTRA PARA
EW OUT
HD OUT
HP IN
X RAY IN
VDP OUT
VDN OUT
VPROT
ABLIN
VM OUT
DF PARA
MP PARA
E/W
H DRIVE
AFC PULSE
X RAY
V OUT IC5400
PART OF V PROT Q5400, Q5401
IC5102
IC5300
OP. AMP IC5104
ROT -
ROT +
DAC IC5103
DF PHOCUS PHASE
M PIN CONT
OP. AMP IC5301
COMPARATOR IC5302
CN2501
R
L
TO SPEAKERS
CN2502
R IN
L IN
R OUT
L OUT
WOOFER MUTE
TO H2 BOARD CN2908
CN2500
WOOFER
TO WOOFER
CN5100
ROT-
ROT+
TO ROTATION COIL
CN5002
DF DRIVE
M PIN CONT
H CENTRE
TO D BOARD CN8810
CN7001
R-
R+
G-
G+
B-
B+
1K
TO C BOARD CN7301
CN5801
DF PARA
MP PARA
E/W
H DRIVE
AFC PULSE
ABL
X RAY
TO D BOARD CN8620
CN7000
VM
QP(-)
QP(+)
TO VM BOARD CN7442
A 1/2 (VIDEO AND AUDIO PROCESSORS, AUDIO OUTPUT, DEFLECTION, DECODER, RGB, INTERFACE)

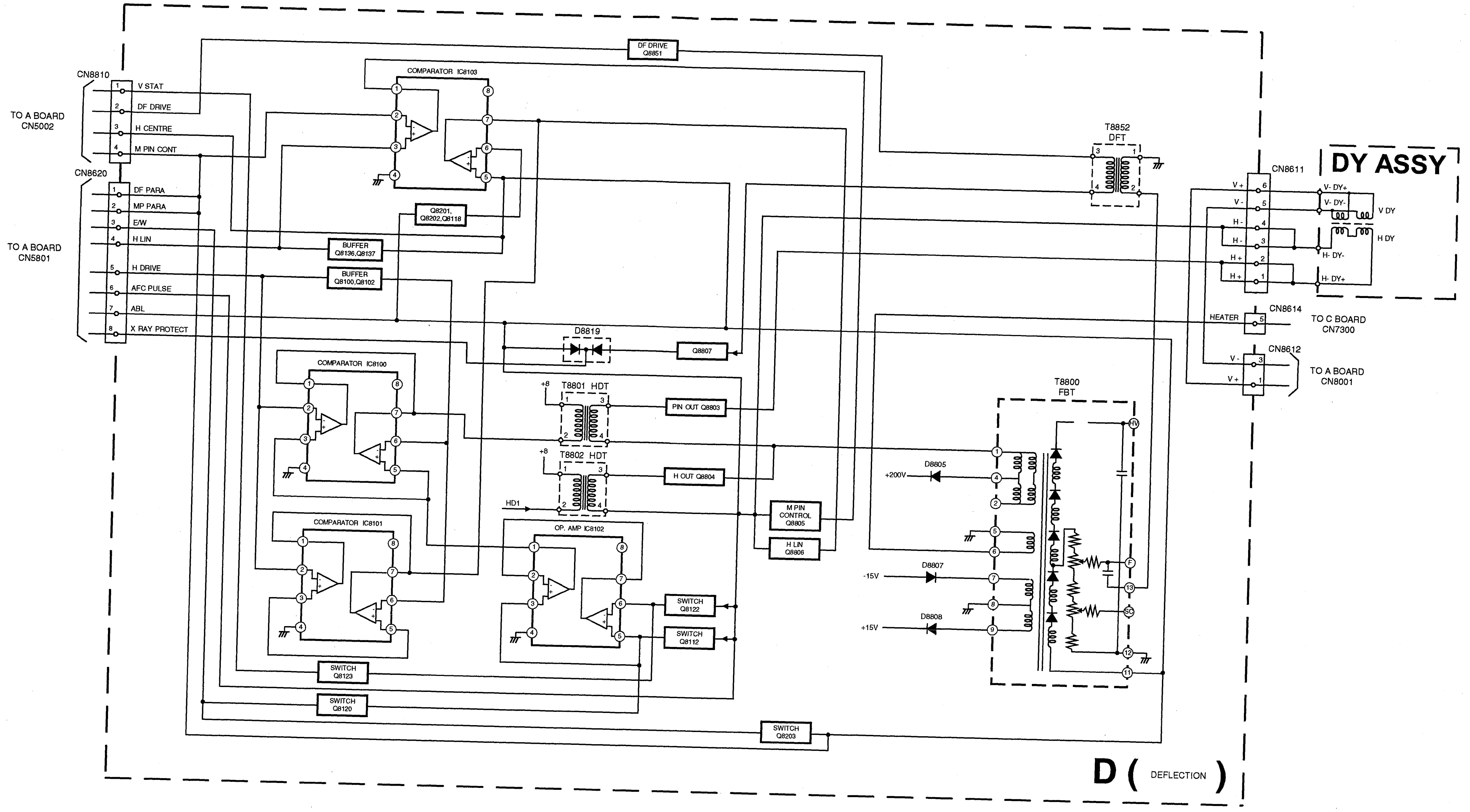
5-1. BLOCK DIAGRAMS (2)

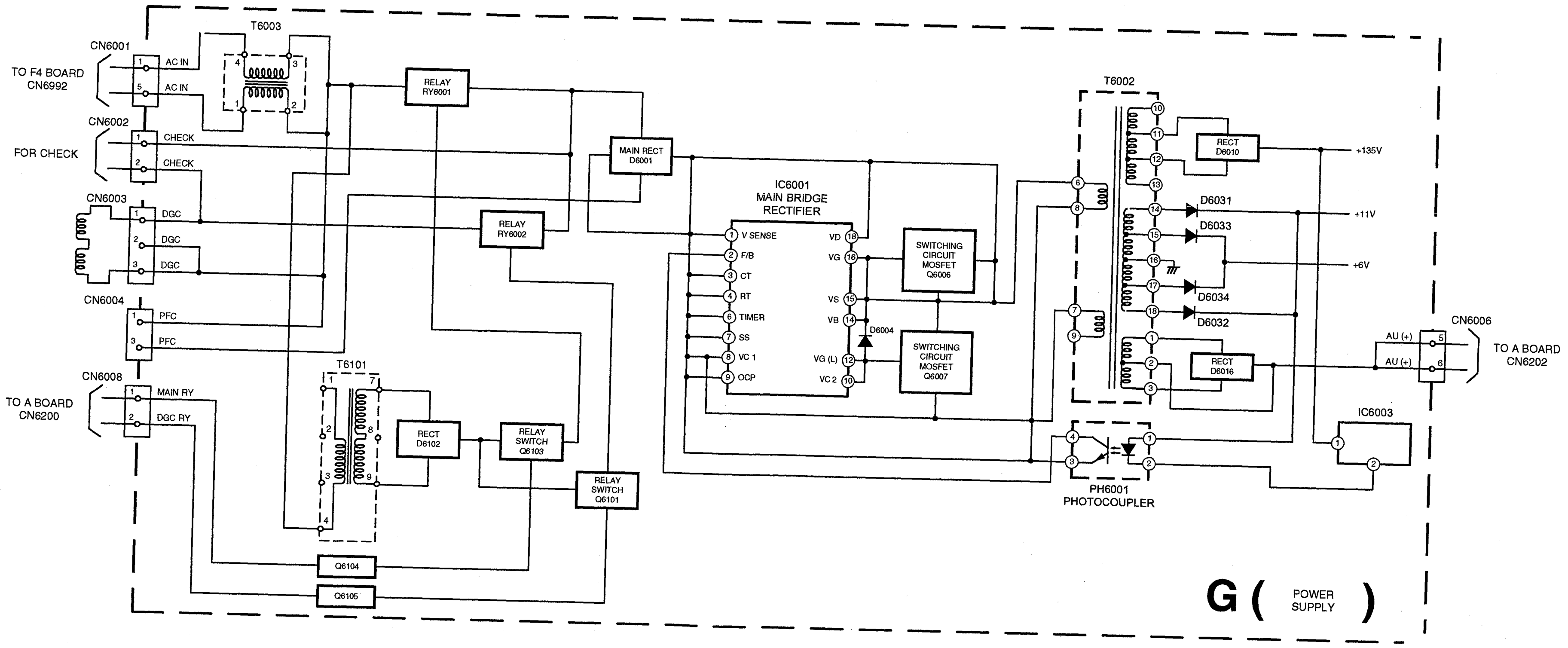

A 2/2 (VIDEO AND AUDIO PROCESSORS, AUDIO OUTPUT, DEFLECTION, DECODER, RGB, INTERFACE)
COLOR DECODER AND I/O VIDEO SWTICH IC3200
BLK 100
H SYNC
V SYNC
BLK 1
BLK 2
RED IN 1
GREEN IN 1
BLUE IN 1
RED IN 2
GREEN IN 2
BLUE IN 2
VIDEO RF
V IN 1
8 NC
17 H OUT 100
23 V OUT 100
37 FBL 1
38 FBL 2
39 R IN 1
40 G IN 1
41 B IN 1
46 R IN 2
47 G IN 2
48 B IN 2
52 CVBS 1
53 CVBS 2
AU OUT 100 79
AY OUT 100 76
X IN 70
X OUT 69
CVBS OUT 1 63
CVBS OUT 2 62
CVBS OUT 3 61
CVBS 7 58
CVBS 6 57
CVBS 5 56
CVBS 4 55
CVBS 3 54
CVBS PIP
C FRONT
Y/CVBS FRONT
C IN 3
V/Y IN 3
V IN 2
6dB AMPLIFIER FOR THE SELECTABLE OUTPUT CVBS (3RD SCART) Q3202
6dB AMPLIFIER FOR THE SELECTABLE OUTPUT CVBS (3RD SCART) Q3200
6dB AMPLIFIER FOR THE MONITOR OUTPUT CVBS (2ND SCART) Q3204
6dB AMPLIFIER FOR THE MONITOR OUTPUT CVBS (2ND SCART) Q3201
100Hz BUFFER U SCAN RATE BACKEND Q3302
100Hz BUFFER U SCAN RATE BACKEND Q3301
V OUT 3
V OUT 2
V IN 100
U IN 100
VIDEO RF
COINCIDENCE DETECTOR Q1005
PART OF OVERVOLTAGE PROTECTION Q5816
D5809
TO A BOARD SHEET1
H SYNC
V SYNC
CVBS TXT
+3.3V
12 C ADAPTOR 5V - 3.3V Q3500
12 C ADAPTOR 5V - 3.3V Q3501
CN6200
MAIN RY 1
DGC RY 2
TO G BOARD CN6008
CN0101
SCL 8
SDA 9
LED 24
SIRCS 10
AGC 40
MODE 3 6
OVP 25
GROUP DELAY 11
OCP 23
COINCIDENCE 15
MAIN RY 13
DGC RY 14
B TEXT 20
G TEXT 19
RESET AUDIO 22
R TEXT 18
AUDIO MUTE 36
FS 100 12
MODE 1 35
AV LINK 5
MODE 2 34
LINE MUTE 37
H SYNC 17
V SYNC 16
TXT VIDEO 21
KEY 39
12C DISABLE 7
TO M BOARD CN0001
CN0102
SCL 2
SDA 3
CS 4
AGC 5
SERVICE CONNECTOR


C (R, G, B OUT)
CN7301
TO A BOARD CN7001
1 R-
2 R+
3 G-
4 G+
5 B-
6 B+
9 IK
IC7300 VIDEO OUT (RED)
IC7325 VIDEO OUT (GREEN)
IC7350 VIDEO OUT (BLUE)
1 VB
3 VI
5 IK
VO 8
STANDBY SW Q7355
STANDBY SW Q7352
STANDBY SW Q7353
+12V
VOLTAGE DET Q7354, Q7350
FV
TO D BOARD FV (T8800)
J7375
G4
R 10
G 9
B 8
G2 13
HEATER 5
PICTURE TUBE
HV
TO D BOARD HV (T8800)
CN7300
HEATER 5
TO D BOARD CN8614
RV7375
G2

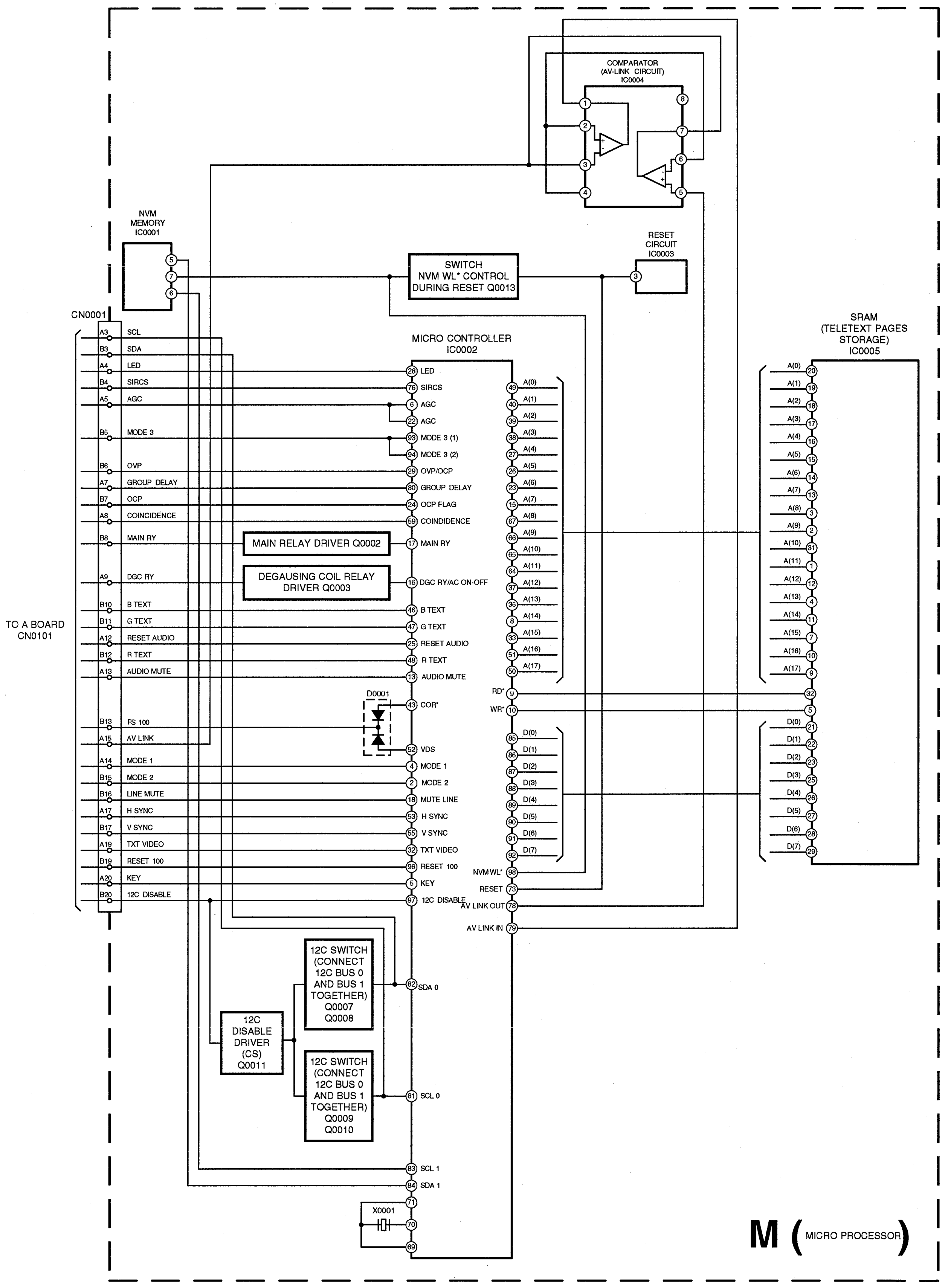

CN2908
TO A BOARD CN2502
WOOFER MUTE 1
R OUT 2
R IN 3
L IN 5
L OUT 6
J2900
HEADPHONES
CN2906
TO A BOARD CN2000
AUDIO L 6
AUDIO R 9
Y/CVBS 4
C 2
KEY 1
S0900, S0901, S0902
CN2900
L
R
VIDEO
Y/C
1
2
3
4
H2(FRONT AV AND HEADPHONE)

5-1. BLOCK DIAGRAMS (3)

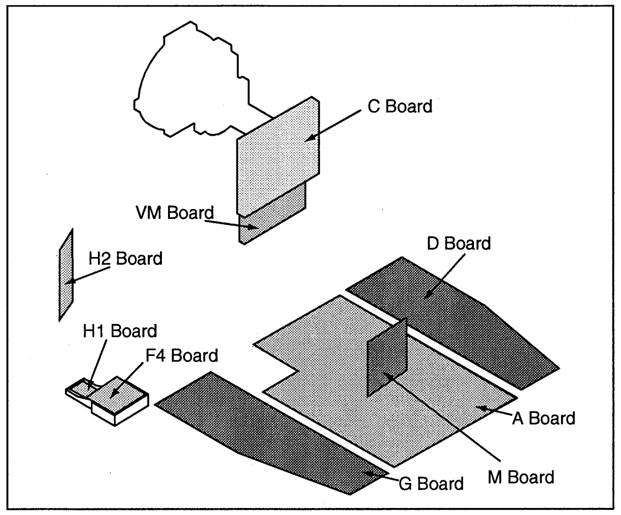

CN8810
TO A BOARD CN5002
V STAT
DF DRIVE
H CENTRE
M PIN CONT
CN8620
TO A BOARD CN5801
DF PARA
MP PARA
E/W
H LIN
H DRIVE
AFC PULSE
ABL
X RAY PROTECT
DF DRIVE Q8851
COMPARATOR IC8103
Q8201, Q8202,Q8118
BUFFER Q8136,Q8137
BUFFER Q8100,Q8102
T8852 DFT
CN8611
DY ASSY
V +
V -
H -
H -
H +
H +
V- DY+
V- DY-
V DY
H DY
H- DY-
H- DY+
HEATER
CN8614
TO C BOARD CN7300
CN8612
TO A BOARD CN8001
D8819
Q8807
COMPARATOR IC8100
+8
T8801 HDT
PIN OUT Q8803
+8
T8802 HDT
H OUT Q8804
HD1
T8800 FBT
D8805
+200V
M PIN CONTROL Q8805
H LIN Q8806
COMPARATOR IC8101
OP. AMP IC8102
SWITCH Q8122
SWITCH Q8112
D8807
-15V
D8808
+15V
SWITCH Q8123
SWITCH Q8120
SWITCH Q8203
D (DEFLECTION)


CN6001
TO F4 BOARD CN6992
AC IN
AC IN
T6003
CN6002
FOR CHECK
CHECK
CHECK
CN6003
DGC
DGC
DGC
CN6004
PFC
PFC
CN6008
TO A BOARD CN6200
MAIN RY
DGC RY
RELAY RY6001
MAIN RECT D6001
RELAY RY6002
IC6001 MAIN BRIDGE RECTIFIER
V SENSE
F/B
CT
RT
TIMER
SS
VC 1
OCP
VD
VG
VS
VB
VG (L)
VC 2
D6004
SWITCHING CIRCUIT MOSFET Q6006
SWITCHING CIRCUIT MOSFET Q6007
T6002
RECT D6010
+135V
D6031
+11V
D6033
+6V
D6034
D6032
RECT D6016
AU (+)
AU (+)
CN6006
TO A BOARD CN6202
IC6003
PH6001 PHOTOCOUPLER
T6101
RECT D6102
RELAY SWITCH Q6103
RELAY SWITCH Q6101
Q6104
Q6105
G (POWER SUPPLY)

5-1. BLOCK DIAGRAMS (4)


COMPARATOR (AV-LINK CIRCUIT) IC0004
NVM MEMORY IC0001
RESET CIRCUIT IC0003
SWITCH NVM WL* CONTROL DURING RESET Q0013
CN0001
TO A BOARD CN0101
MICRO CONTROLLER IC0002
SRAM (TELETEXT PAGES STORAGE) IC0005
SCL
SDA
LED
SIRCS
AGC
MODE 3
OVP
GROUP DELAY
OCP
COINCIDENCE
MAIN RY
DGC RY
B TEXT
G TEXT
RESET AUDIO
R TEXT
AUDIO MUTE
FS 100
AV LINK
MODE 1
MODE 2
LINE MUTE
H SYNC
V SYNC
TXT VIDEO
RESET 100
KEY
12C DISABLE
MAIN RELAY DRIVER Q0002
DEGAUSING COIL RELAY DRIVER Q0003
MODE 3 (1)
MODE 3 (2)
OVP/OCP
OCP FLAG
DGC RY/AC ON-OFF
D0001
COR*
VDS
MUTE LINE
RD*
WR*
NVM WL*
RESET
AV LINK OUT
AV LINK IN
A(0)–A(17)
D(0)–D(7)
12C SWITCH (CONNECT 12C BUS 0 AND BUS 1 TOGETHER) Q0007 Q0008
12C DISABLE DRIVER (CS) Q0011
12C SWITCH (CONNECT 12C BUS 0 AND BUS 1 TOGETHER) Q0009 Q0010
SDA 0
SCL 0
SCL 1
SDA 1
X0001
M (MICRO PROCESSOR)

5-2. CIRCUIT BOARD LOCATION


C Board
VM Board
H2 Board
D Board
H1 Board
F4 Board
A Board
G Board
M Board

5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted.
- pF : μμF 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm Electrical power rating : 1/4W

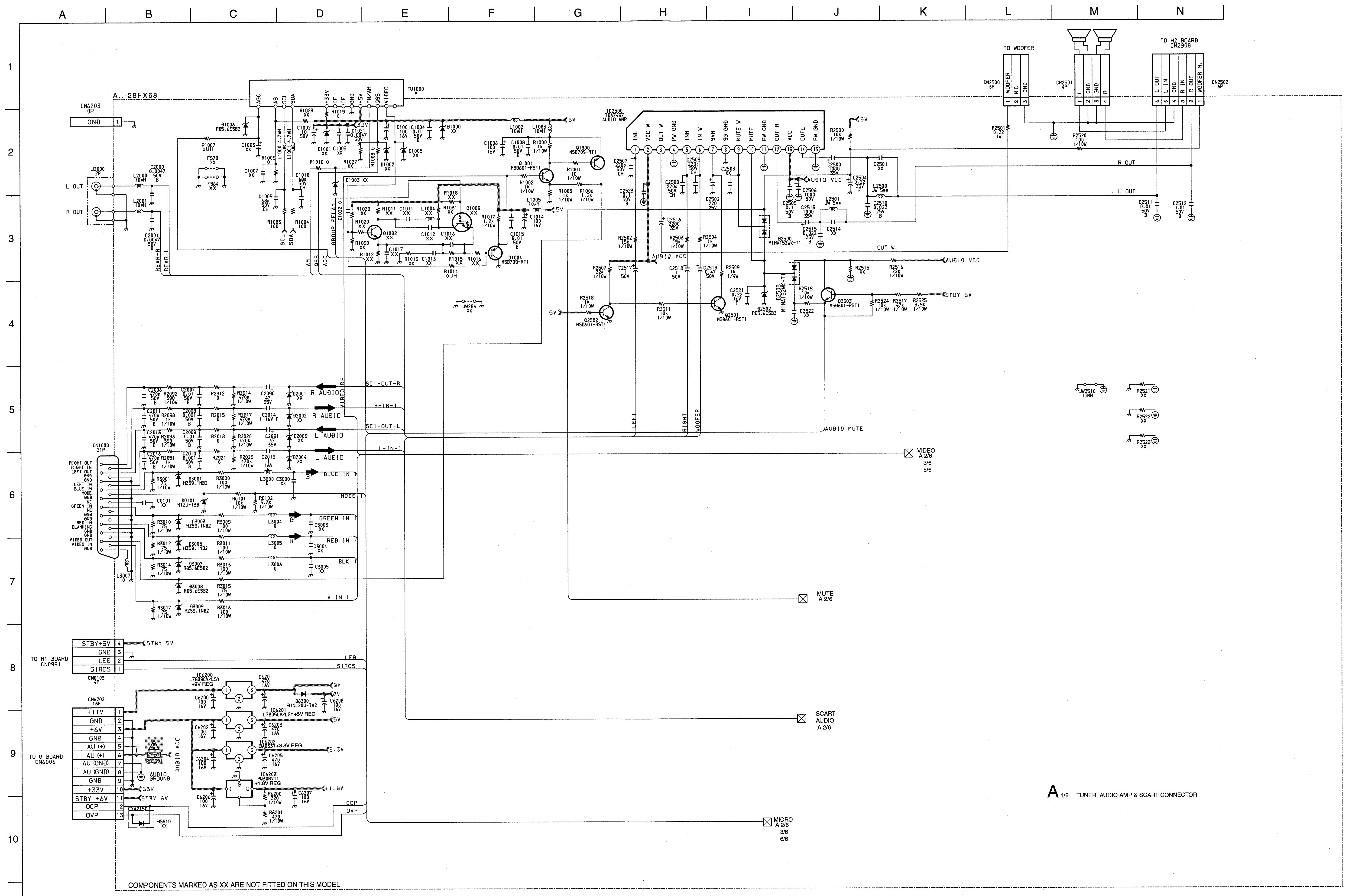
- Chip resistors are 1/10W
- All resistors are in ohms.
  k = 1000 ohms, M = 1000,000 ohms
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ☐ : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital mutimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerences.
- ▬ : B + bus.
- ‒ ‒ ‒ : B - bus.
- ⇨ : RF signal path.
- ⊥ : earth - ground.
- ⏚ : earth - chassis.

Reference Information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

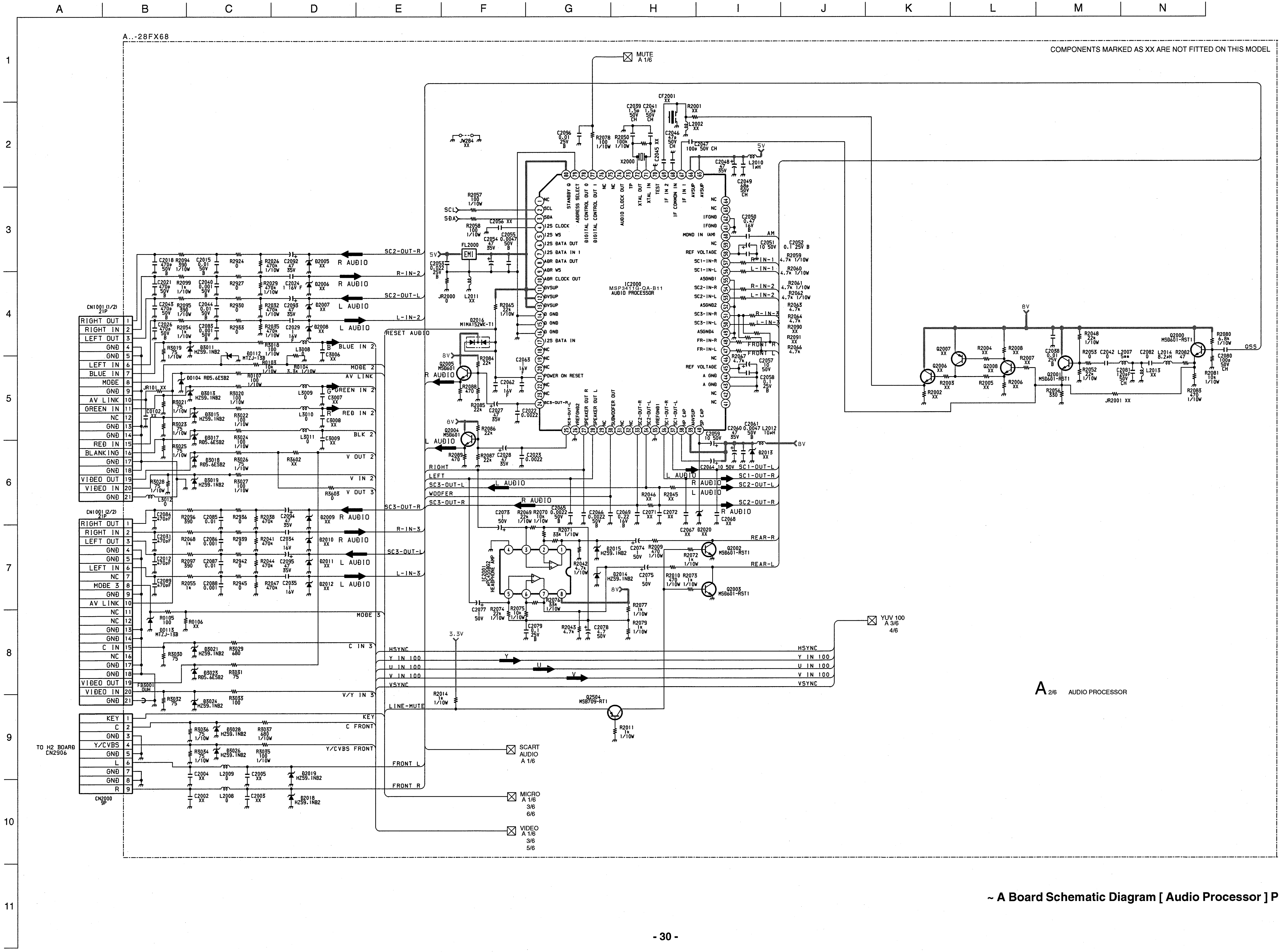
Note : Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié. specified.


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
11
A..-28FX68
CN6203 0P
GND
TU1000
AGC
AS
SCL
SDA
+33V
IF
IF
GND
+5V
FM/AM
QSS
VIDEO
J2000 2P
L OUT
R OUT
REAR-R
REAR-L
GROUP DELAY
IC2500 TDA7497 AUDIO AMP
INL
VCC W
OUT W
PW GND
INR
IN W
SVR
SG GND
MUTE W
MUTE
PW GND
OUT R
VCC
OUTL
PW GND
AUDIO VCC
OUT W.
STBY 5V
TO WOOFER
CN2500 3P
WOOFER
NC
GND
CN2501 4P
TO H2 BOARD CN2908
CN2502 6P
L OUT
L IN
R IN
R OUT
WOOFER M.
R OUT
L OUT
Q1000 MSB709-RT1
Q1001 MSD601-RST1
Q1002
Q1003
Q1004 MSB709-RT1
Q2500
Q2501 MSD601-RST1
Q2502 MSD601-RST1
Q2503 MSD601-RST1
D2500 MIMA152WK-T1
D2503 MIMA152WK-T1
D2502 RD5.6ESB2
LEFT
RIGHT
WOOFER
AUDIO MUTE
SCI-OUT-R
R-IN-1
SCI-OUT-L
L-IN-1
R AUDIO
R AUDIO
L AUDIO
L AUDIO
BLUE IN
MODE
GREEN IN
RED IN
BLK
V IN 1
CN1000 21P
RIGHT OUT
RIGHT IN
LEFT OUT
GND
GND
LEFT IN
BLUE IN
MODE
GND
NC
GREEN IN
NC
GND
GND
RED IN
BLANKING
GND
GND
VIDEO OUT
VIDEO IN
GND
VIDEO A 2/6 3/6 5/6
MUTE A 2/6
SCART AUDIO A 2/6
MICRO A 2/6 3/6 6/6
TO H1 BOARD CN0991
STBY+5V
GND
LED
SIRCS
CN0103 4P
LED
SIRCS
TO G BOARD CN6006
CN6202 13P
+11V
GND
+6V
GND
AU (+)
AU (+)
AU (GND)
AU (GND)
GND
+33V
STBY +6V
OCP
OVP
PS2501
AUDIO GROUND
AUDIO VCC
33V
STBY 6V
IC6200 L7809CV/LSY +9V REG
IC6201 L7805CV/LSY+5V REG
IC6202 BA033T +3.3V REG
IC6203 PQ018RV11 +1.8V REG
9V
8V
5V
3.3V
1.8V
OCP
OVP
D5810

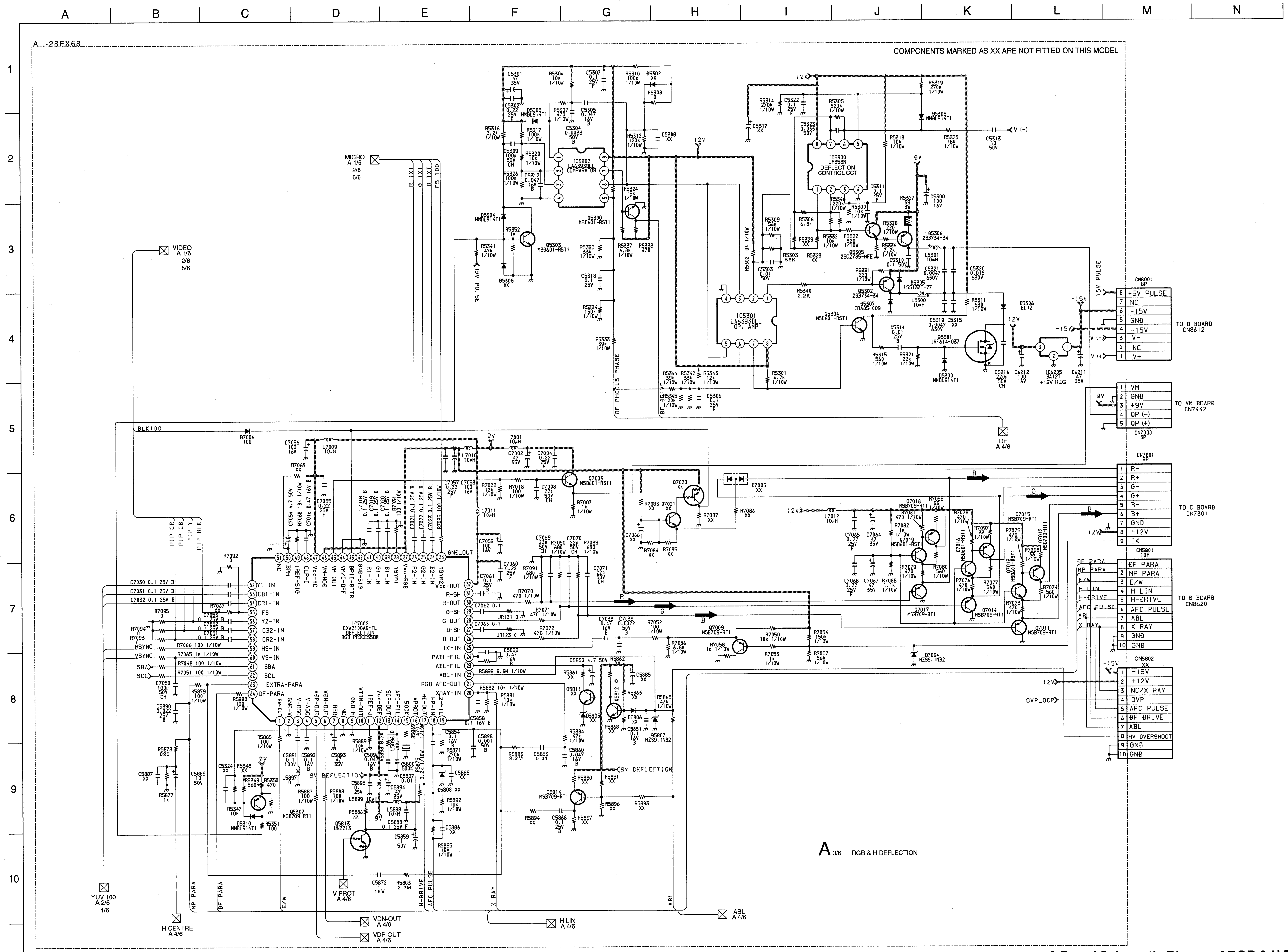
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

A 1/6 TUNER, AUDIO AMP & SCART CONNECTOR

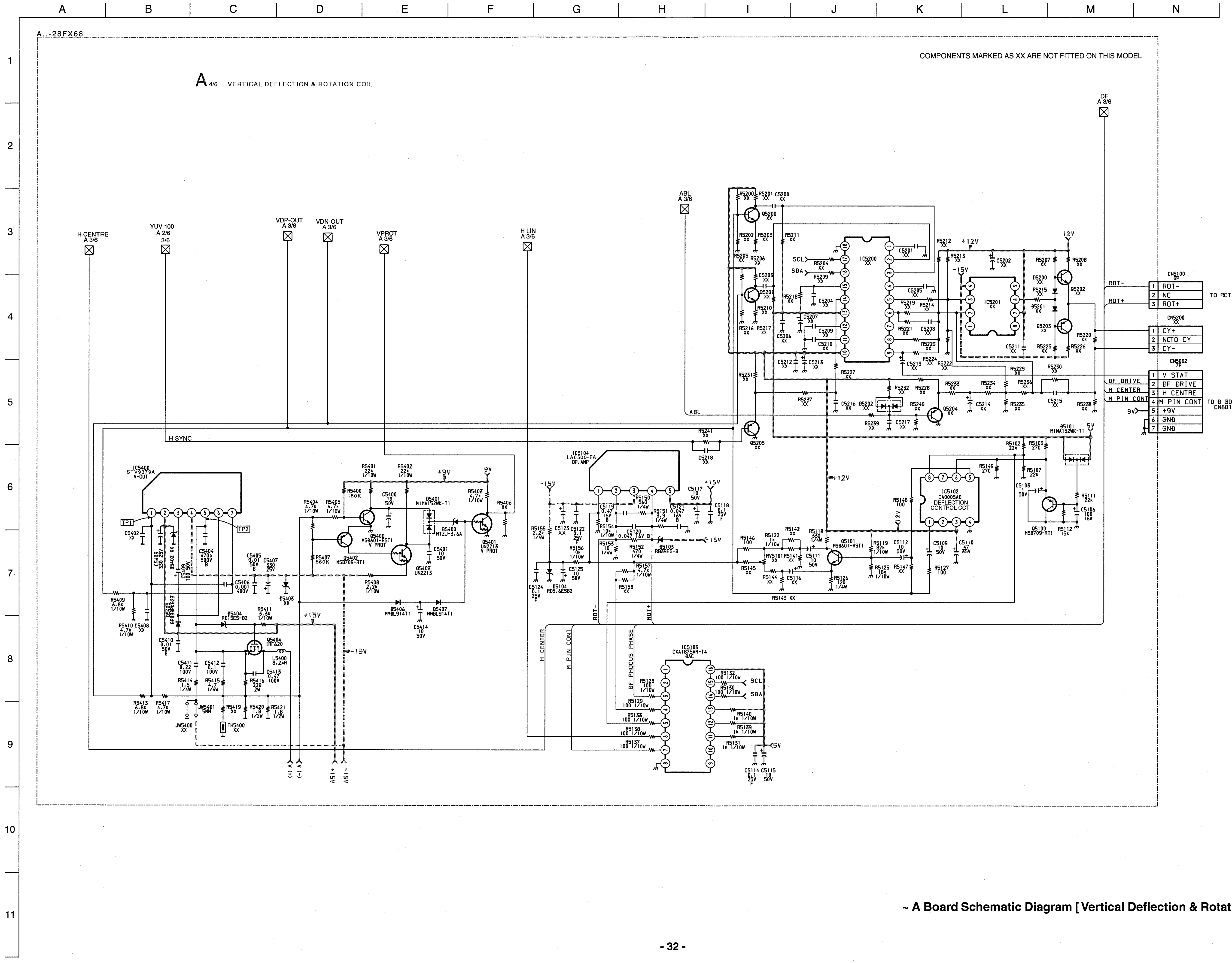
~ A Board Schematic Diagram [Tuner, Audio Amp & Scart Connector] Page 1/6 ~


A..-28FX68
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
MUTE A 1/6
IC2000 MSP3411G-QA-B11 AUDIO PROCESSOR
IC2001 HEADPHONE AMP
CN1001 (1/2) 21P
CN1001 (2/2) 21P
CN2000 9P
TO H2 BOARD CN2906
RIGHT OUT
RIGHT IN
LEFT OUT
GND
LEFT IN
BLUE IN
MODE
AV LINK
GREEN IN
NC
RED IN
BLANKING
VIDEO OUT
VIDEO IN
MODE 3
C IN
KEY
C
Y/CVBS
L
R
SC2-OUT-R
R-IN-2
SC2-OUT-L
L-IN-2
SC3-OUT-R
R-IN-3
SC3-OUT-L
L-IN-3
R AUDIO
L AUDIO
RESET AUDIO
BLUE IN 2
GREEN IN 2
RED IN 2
BLK 2
V OUT 2
V IN 2
V OUT 3
C IN 3
V/Y IN 3
C FRONT
Y/CVBS FRONT
FRONT L
FRONT R
HSYNC
Y IN 100
U IN 100
V IN 100
VSYNC
LINE-MUTE
RIGHT
LEFT
WOOFER
SC1-OUT-L
SC1-OUT-R
SC2-OUT-L
SC2-OUT-R
REAR-R
REAR-L
YUV 100 A 3/6 4/6
SCART AUDIO A 1/6
MICRO A 1/6 3/6 6/6
VIDEO A 1/6 3/6 5/6
QSS
8V
5V
3.3V
A 2/6 AUDIO PROCESSOR

~ A Board Schematic Diagram [Audio Processor] Page 2/6 ~


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
11
A -28FX68
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
IC5302 LA6393DLL COMPARATOR
IC5300 LM358N DEFLECTION CONTROL CCT
IC5301 LA6393DLL OP. AMP
IC7002 CXA2100AQ-TL DEFLECTION RGB PROCESSOR
IC6205 BA12T +12V REG
MICRO A 1/6 2/6 6/6
VIDEO A 1/6 2/6 5/6
YUV 100 A 2/6 4/6
H CENTRE A 4/6
V PROT A 4/6
VDN-OUT A 4/6
VDP-OUT A 4/6
H LIN A 4/6
ABL A 4/6
DF A 4/6
BLK100
R TXT
G TXT
B TXT
FS 100
PIP CR
PIP CB
PIP Y
PIP BLK
HSYNC
VSYNC
SDA
SCL
9V DEFLECTION
OVP_OCP
CN8001 8P
+5V PULSE
NC
+15V
GND
-15V
V-
NC
V+
TO D BOARD CN8612
VM
GND
+9V
GP (-)
GP (+)
TO VM BOARD CN7442
CN7000 5P
CN7001 9P
R-
R+
G-
G+
B-
B+
GND
+12V
IK
TO C BOARD CN7301
CN5801 10P
DF PARA
MP PARA
E/W
H LIN
H-DRIVE
AFC PULSE
ABL
X RAY
GND
GND
TO D BOARD CN8620
CN5802 XX
-15V
+12V
NC/X RAY
OVP
AFC PULSE
DF DRIVE
ABL
HV OVERSHOOT
GND
GND
A 3/6 RGB & H DEFLECTION

~ A Board Schematic Diagram [RGB & H Deflection] Page 3/6 ~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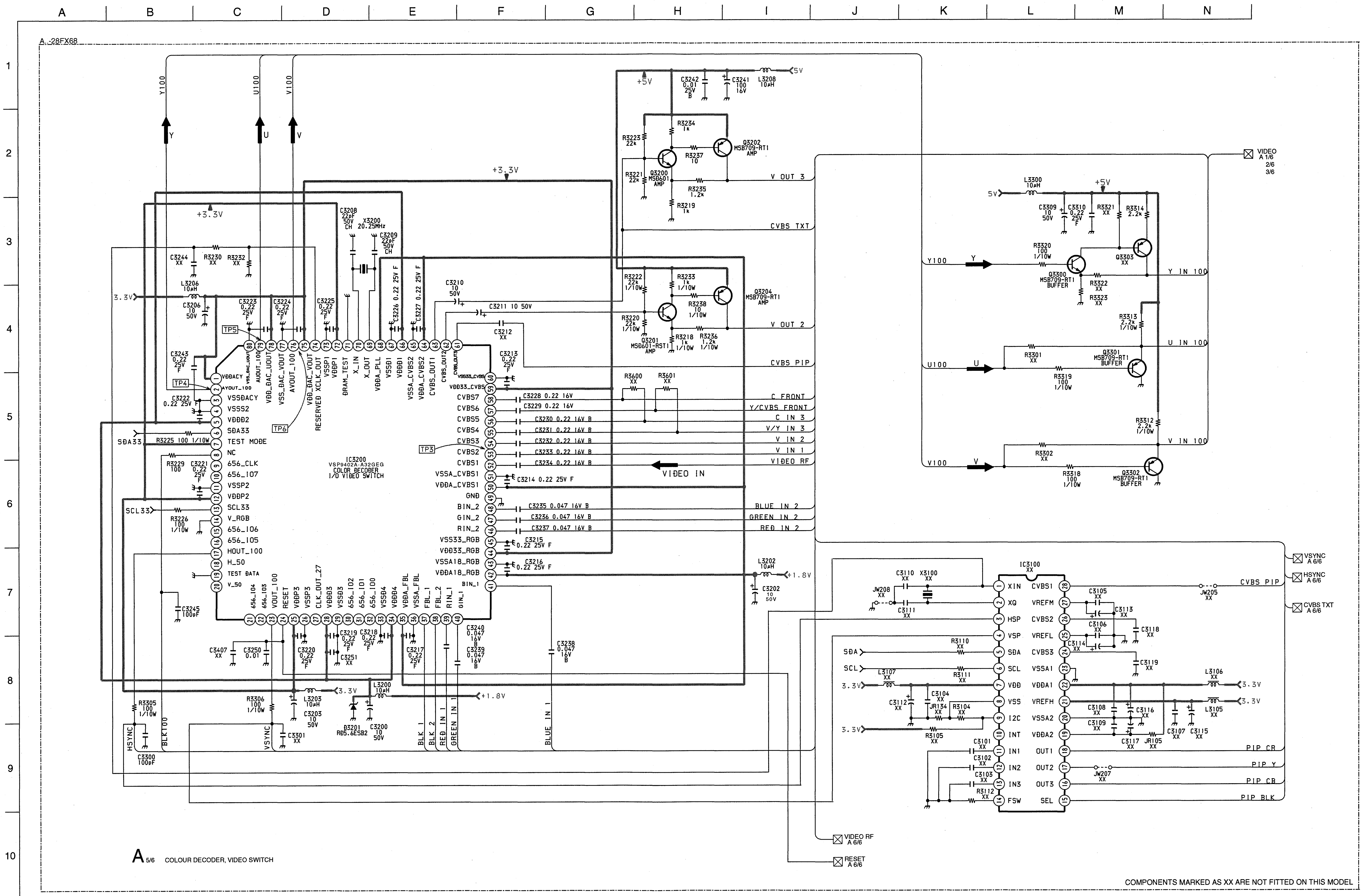
11
A..-28FX68
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
A 4/6 VERTICAL DEFLECTION & ROTATION COIL
H CENTRE A 3/6
YUV 100 A 2/6 3/6
VDP-OUT A 3/6
VDN-OUT A 3/6
VPROT A 3/6
H LIN A 3/6
ABL A 3/6
DF A 3/6
H SYNC
ABL
IC5400 STV9379A V-OUT
TP1
TP2
IC5104 LA6500-FA OP.AMP
IC5200 XX
IC5201 XX
IC5102 CA0005AD DEFLECTION CONTROL CCT
IC5103 CXA1875AM-T4 DAC
Q5400 MSD601-RST1 V PROT
Q5401 UN2213 V PROT
Q5402 MSB709-RT1
Q5403 UN2213
Q5404 IRF620
Q5100 MSB709-RT1
Q5101 MSD601-RST1
Q5200 XX
Q5201 XX
Q5202 XX
Q5203 XX
Q5204 XX
Q5205 XX
D5401 M1MA152WK-T1
D5400 MTZJ-3.6A
D5404 RD15ES-B2
D5405 DP08DPK0Z3
D5406 MMBL914T1
D5407 MMBL914T1
D5101 M1MA152WK-T1
D5103 RD39ES-B
D5104 RD5.6ESB2
L5400 8.2µH
TH5400 XX
JW5400 XX
JW5401 5MM
+9V
9V
+15V
-15V
+12V
12V
5V
SCL
SDA
ROT-
ROT+
H CENTER
M PIN CONT
DF PHOCUS PHASE
DF DRIVE
V (+)
V (-)
CN5100 3P
1 ROT-
2 NC
3 ROT+
TO ROT COIL
CN5200 XX
1 CY+
2 NCTO CY
3 CY-
CN5002 7P
1 V STAT
2 DF DRIVE
3 H CENTRE
4 M PIN CONT
5 +9V
6 GND
7 GND
TO D BOARD CN8810

~ A Board Schematic Diagram [Vertical Deflection & Rotation Coil] Page 4/6 ~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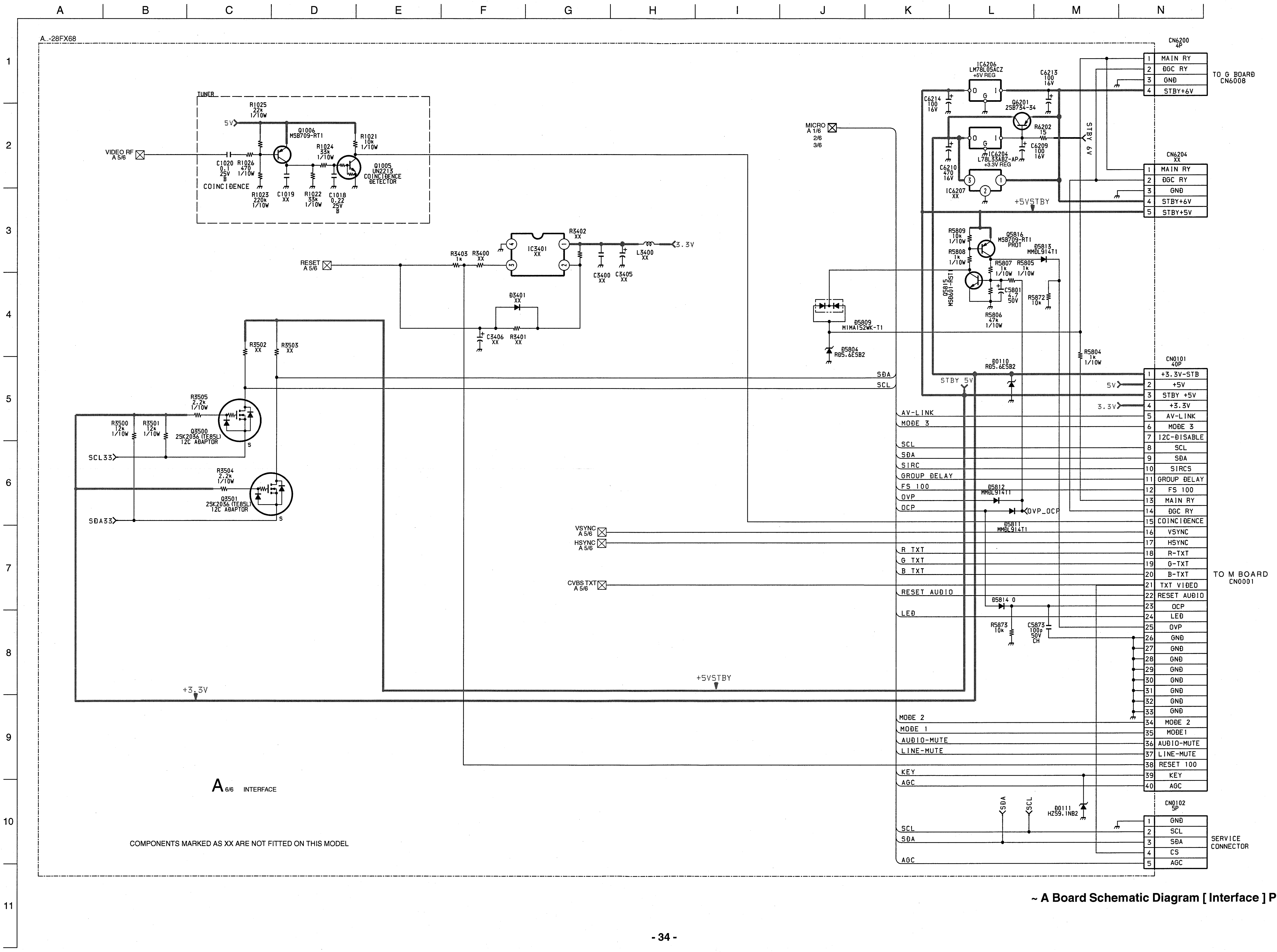
10
11
A -28FX68
Y100
U100
V100
Y
U
V
+3.3V
+5V
5V
C3242 0.01 25V B
C3241 100 16V
L3208 10μH
R3223 22k
R3234 1k
R3237 10
Q3202 MSB709-RT1 AMP
R3221 22k
Q3200 MSD601 AMP
R3235 1.2k
R3219 1k
V OUT 3
CVBS TXT
R3222 22k 1/10W
R3233 1k 1/10W
R3238 10 1/10W
Q3204 MSB709-RT1 AMP
R3220 22k 1/10W
Q3201 MSD601-RST1 AMP
R3218 1k 1/10W
R3236 1.2k 1/10W
V OUT 2
CVBS PIP
R3600 XX
R3601 XX
C FRONT
Y/CVBS FRONT
C IN 3
V/Y IN 3
V IN 2
V IN 1
VIDEO RF
VIDEO IN
BLUE IN 2
GREEN IN 2
RED IN 2
L3202 10μH
+1.8V
C3202 10 50V
C3208 22pF 50V CH
X3200 20.25MHz
C3209 22pF 50V CH
C3226 0.22 25V F
C3227 0.22 25V F
C3210 10 50V
C3211 10 50V
C3212 XX
C3213 0.22 25V F
C3244 XX
R3230 XX
R3232 XX
L3206 10μH
C3206 10 50V
3.3V
C3223 0.22 25V F
C3224 0.22 25V F
C3225 0.22 25V F
TP5
TP4
TP6
TP3
C3243 0.22 25V F
C3222 0.22 25V F
SDA33
R3225 100 1/10W
R3229 100
C3221 0.22 25V F
SCL33
R3226 100 1/10W
C3245 100pF
IC3200 VSP9402A-A32GEG COLOR DECODER I/O VIDEO SWITCH
VDDACY
AYOUT_100
VSSDACY
VSSS2
VDDD2
SDA33
TEST MODE
NC
656_CLK
656_107
VSSP2
VDDP2
SCL33
V_RGB
656_106
656_105
HOUT_100
H_50
TEST DATA
V_50
VSS_DAC_YOUT
AUOUT_100
VDD_DAC_UOUT
VSS_DAC_VOUT
AVOUT_100
VDD_DAC_VOUT
RESERVED XCLK_OUT
VSSP1
VDDP1
DRAM_TEST
X_IN
X_OUT
VDDA_PLL
VSSD1
VDDD1
VSSA_CVBS2
VDDA_CVBS2
CVBS_OUT1
CVBS_OUT2
VSS33_CVBS
VDD33_CVBS
CVBS7
CVBS6
CVBS5
CVBS4
CVBS3
CVBS2
CVBS1
VSSA_CVBS1
VDDA_CVBS1
GND
BIN_2
GIN_2
RIN_2
VSS33_RGB
VDD33_RGB
VSSA18_RGB
VDDA18_RGB
BIN_1
C3228 0.22 16V
C3229 0.22 16V
C3230 0.22 16V B
C3231 0.22 16V B
C3232 0.22 16V B
C3233 0.22 16V B
C3234 0.22 16V B
C3214 0.22 25V F
C3235 0.047 16V B
C3236 0.047 16V B
C3237 0.047 16V B
C3215 0.22 25V F
C3216 0.22 25V F
656_104
656_103
VOUT_100
RESET
VDDP3
VSSP3
CLK_OUT_27
VDDD3
VSSD3
656_102
656_101
656_100
VSSD4
VDDD4
VDDA_FBL
VSSA_FBL
FBL_1
FBL_2
RIN_1
GIN_1
C3407 XX
C3250 0.01
C3220 0.22 25V F
C3219 0.22 25V F
C3218 0.22 25V F
C3251 XX
C3217 0.22 25V F
C3240 0.047 16V B
C3239 0.047 16V B
C3238 0.047 16V B
L3203 10μH
L3200 10μH
C3203 10 50V
D3201 RD5.6ESB2
C3200 10 50V
R3305 100 1/10W
R3306 100 1/10W
C3301 XX
C3300 100pF
HSYNC
BLKT00
VSYNC
BLK 1
BLK 2
RED IN 1
GREEN IN 1
BLUE IN 1
VIDEO A 1/6 2/6 3/6
L3300 10μH
C3309 10 50V
C3310 0.22 25V F
R3321 XX
R3314 2.2k
R3320 100 1/10W
Q3300 MSB709-RT1 BUFFER
Q3303 XX
R3322 XX
R3323 XX
Y IN 100
R3313 2.2k 1/10W
R3301 XX
Q3301 MSB709-RT1 BUFFER
R3319 100 1/10W
U IN 100
R3312 2.2k 1/10W
V IN 100
R3302 XX
R3318 100 1/10W
Q3302 MSB709-RT1 BUFFER
VSYNC A 6/6
HSYNC A 6/6
CVBS TXT A 6/6
IC3100 XX
C3110 XX
X3100 XX
JW208 XX
C3111 XX
XIN
XQ
HSP
VSP
SDA
SCL
VDD
VSS
I2C
INT
IN1
IN2
IN3
FSW
CVBS1
VREFM
CVBS2
VREFL
CVBS3
VSSA1
VDDA1
VREFH
VSSA2
VDDA2
OUT1
OUT2
OUT3
SEL
C3105 XX
C3113 XX
C3106 XX
C3118 XX
C3114 XX
C3119 XX
JW205 XX
CVBS PIP
R3110 XX
R3111 XX
L3107 XX
C3104 XX
C3112 XX
JR134 XX
R3104 XX
R3105 XX
C3108 XX
C3109 XX
C3116 XX
C3117 XX
JR105 XX
C3107 XX
C3115 XX
L3106 XX
L3105 XX
C3101 XX
C3102 XX
C3103 XX
R3112 XX
JW207 XX
PIP CR
PIP Y
PIP CB
PIP BLK
VIDEO RF A 6/6
RESET A 6/6
A 5/6 COLOUR DECODER, VIDEO SWITCH

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

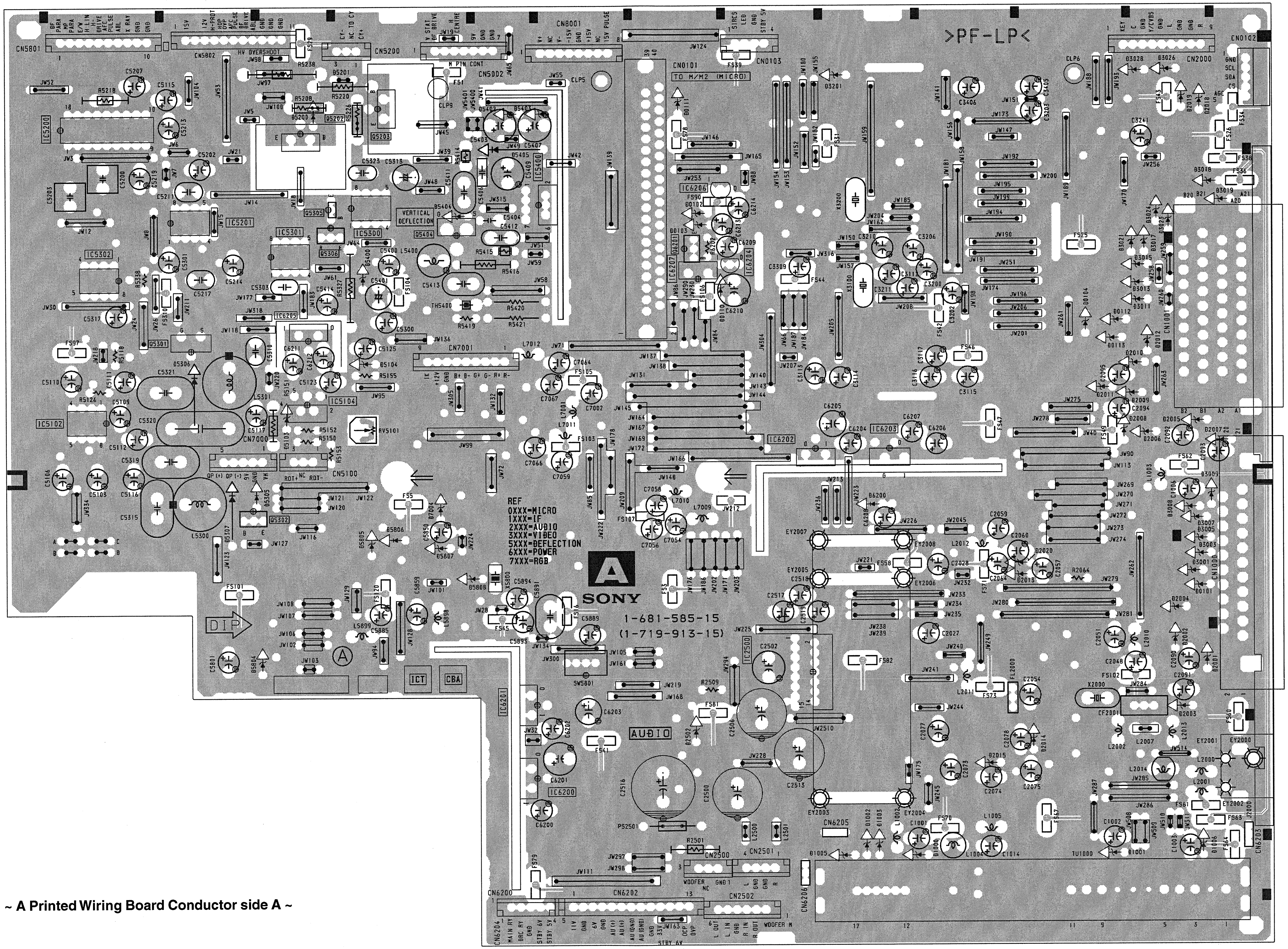
~ A Board Schematic Diagram [Colour Decoder, Video Switch] Page 5/6 ~


A.-28FX68
TUNER
VIDEO RF A 5/6
5V
R1025 22k 1/10W
Q1006 MSB709-RT1
R1021 10k 1/10W
R1024 33k 1/10W
Q1005 UN2213 COINCIDENCE DETECTOR
C1020 0.1 25V B
R1026 470 1/10W
COINCIDENCE
R1023 220k 1/10W
C1019 XX
R1022 33k 1/10W
C1018 0.22 25V B
RESET A 5/6
R3403 1k
R3400 XX
IC3401 XX
R3402 XX
L3400 XX
3.3V
C3400 XX
C3405 XX
D3401 XX
C3406 XX
R3401 XX
R3502 XX
R3503 XX
R3505 2.2k 1/10W
R3500 12k 1/10W
R3501 12k 1/10W
Q3500 2SK2036 (TE85L) I2C ADAPTOR
SCL33
R3504 2.2k 1/10W
Q3501 2SK2036 (TE85L) I2C ADAPTOR
SDA33
+3.3V
+5VSTBY
MICRO A 1/6 2/6 3/6
D5809 M1MA152WK-T1
D5804 RD5.6ESB2
IC6206 LM78L05ACZ +5V REG
C6214 100 16V
C6213 100 16V
Q6201 2SB734-34
R6202 15
IC6204 L78L33ABZ-AP +3.3V REG
C6209 100 16V
C6210 470 16V
IC6207 XX
STBY 6V
+5VSTBY
R5809 10k 1/10W
R5808 1k 1/10W
Q5816 MSB709-RT1 PROT
D5813 MMDL914T1
R5807 1k 1/10W
R5805 1k 1/10W
Q5815 MSD601-RST1
C5801 4.7 50V
R5872 10k
R5806 47k 1/10W
R5804 1k 1/10W
D0110 RD5.6ESB2
STBY 5V
SDA
SCL
AV-LINK
MODE 3
SCL
SDA
SIRC
GROUP DELAY
FS 100
OVP
OCP
D5812 MMDL914T1
OVP_OCP
D5811 MMDL914T1
VSYNC A 5/6
HSYNC A 5/6
CVBS TXT A 5/6
R TXT
G TXT
B TXT
RESET AUDIO
D5814 0
LED
R5873 10k
C5873 100p 50V CH
MODE 2
MODE 1
AUDIO-MUTE
LINE-MUTE
KEY
AGC
SDA
SCL
D0111 HZS9.1NB2
SCL
SDA
AGC
5V
3.3V
CN6200 4P
1 MAIN RY
2 DGC RY
3 GND
4 STBY+6V
TO G BOARD CN6008
CN6204 XX
1 MAIN RY
2 DGC RY
3 GND
4 STBY+6V
5 STBY+5V
CN0101 40P
1 +3.3V-STB
2 +5V
3 STBY +5V
4 +3.3V
5 AV-LINK
6 MODE 3
7 I2C-DISABLE
8 SCL
9 SDA
10 SIRCS
11 GROUP DELAY
12 FS 100
13 MAIN RY
14 DGC RY
15 COINCIDENCE
16 VSYNC
17 HSYNC
18 R-TXT
19 G-TXT
20 B-TXT
21 TXT VIDEO
22 RESET AUDIO
23 OCP
24 LED
25 OVP
26 GND
27 GND
28 GND
29 GND
30 GND
31 GND
32 GND
33 GND
34 MODE 2
35 MODE1
36 AUDIO-MUTE
37 LINE-MUTE
38 RESET 100
39 KEY
40 AGC
TO M BOARD CN0001
CN0102 5P
1 GND
2 SCL
3 SDA
4 CS
5 AGC
SERVICE CONNECTOR

A 6/6 INTERFACE

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ A Board Schematic Diagram [Interface] Page 6/6 ~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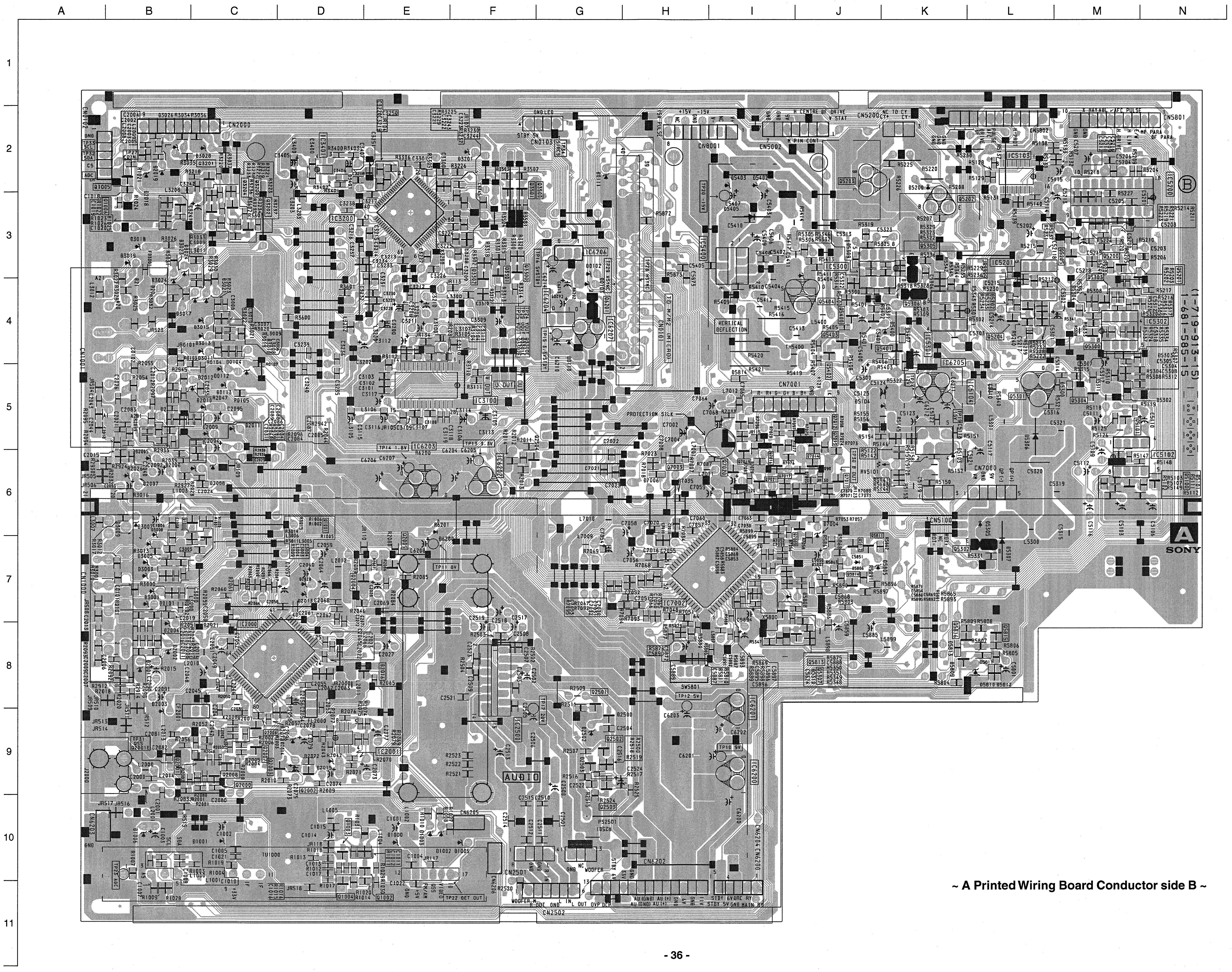
11
>PF-LP<
CN5801
CN5802
CN5200
CN8001
CN0101
TO M/M2 (MICRO)
CN0103
CN2000
CN0102
CN7001
CN7000
CN5100
CN1001
CN1000
CN6200
CN6202
CN2502
CN2500
CN2501
CN6205
CN6206
CN6203
CN6204
VERTICAL DEFLECTION
HV OVERSHOOT
H PIN CONT
REF
0XXX=MICRO
1XXX=IF
2XXX=AUDIO
3XXX=VIDEO
5XXX=DEFLECTION
6XXX=POWER
7XXX=RGB
A
SONY
1-681-585-15
(1-719-913-15)
AUDIO
DIP
ICT
CBA
IC5200
IC5201
IC5301
IC5300
IC5302
IC5102
IC5104
IC6206
IC6207
IC6204
IC6205
IC6202
IC6203
IC2500
IC6201
IC6200
WOOFER NC
GND
L OUT
R OUT
WOOFER M

~ A Printed Wiring Board Conductor side A ~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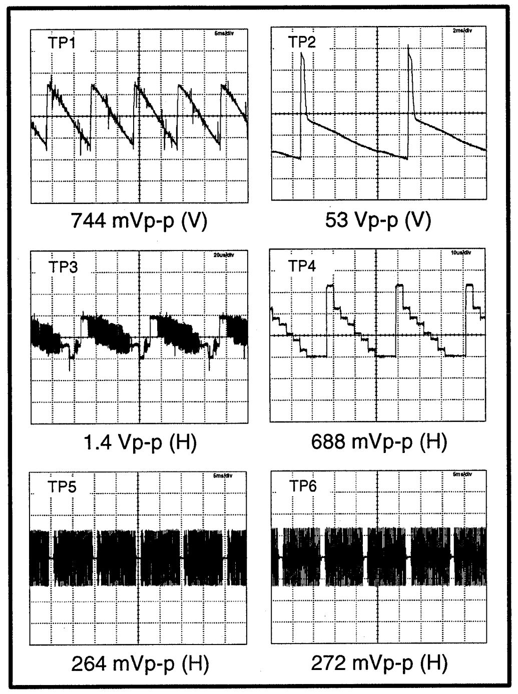
6
7
8
9
10
11
(1-719-913-15)
1-681-585-15
A
SONY
AUDIO
PROTECTION SILE
VERTICAL DEFLECTION
CN5801
CN2000
CN6202
CN2502
CN7000
CN7001
CN5100

~ A Printed Wiring Board Conductor side B ~

~ A Board Waveforms ~



744 mVp-p (V) 53 Vp-p (V)

1.4 Vp-p (H) 688 mVp-p (H)

264 mVp-p (H) 272 mVp-p (H)

~ A Board Location Table (A Side) ~

Ref	Location
DIODE	
D0101	M - 7
D0104	L - 5
D0110	I - 4
D0111	H - 2
D0112	M - 4
D0113	M - 5
D1006	M - 10
D2014	L - 9
D2015	K - 9
D2018	M - 2
D2019	M - 2
D2502	H - 9
D3001	M - 7
D3003	M - 7
D3005	M - 7
D3007	M - 7
D3008	M - 7
D3009	N - 7
D3011	M - 4
D3013	M - 4
D3015	M - 4
D3017	M - 4
D3018	N - 3
D3019	N - 3
D3021	M - 4
D3023	M - 4
D3024	M - 4
D3026	M - 2
D3028	M - 2
D3201	J - 2
D5103	D - 6
D5104	E - 5
D5200	D - 2
D5201	E - 2
D5305	D - 6
D5306	C - 5
D5307	D - 7
D5400	E - 4
D5404	F - 4
D5405	F - 3
D5807	F - 7
D6200	J - 6
D7004	F - 7
IC	
IC5104	D - 6
IC5200	B - 3
IC5201	C - 4
IC5300	E - 4
IC5301	D - 4
IC5302	B - 4
IC5400	G - 4
IC6201	G - 9
IC6202	I - 6
IC6203	J - 6
IC6205	D - 5
IC6206	H - 3
IC6207	H - 4
TRANSISTOR	
Q5202	E- 2
Q5301	C - 5
Q5306	E - 4
Q5404	F - 4

~ A Board Location Table (B Side) ~

Ref	Location
DIODE	
D0101	B - 7
D0104	C - 5
D0110	G - 4
D0111	G - 2
D0112	C - 5
D0113	C - 5
D1006	B - 10
D2014	C - 9
D2015	D - 9
D2016	E - 8
D2018	B - 2
D2019	B - 2
D2500	G - 9
D2502	G - 9
D2503	G - 9
D3001	B - 7
D3003	B - 7
D3005	B - 7
D3007	B - 6
D3008	B - 6
D3009	B - 6
D3011	C - 4
D3013	C - 4
D3015	C - 4
D3017	B - 4
D3018	B - 3
D3019	B - 3
D3021	C - 4
D3023	B - 3
D3024	B - 3
D3026	B - 2
D3028	C - 2
D3201	F - 2
D5103	L - 6
D5104	J - 5
D5200	K - 2
D5202	L - 4
D5300	L - 5
D5303	N - 4
D5304	M - 4
D5305	L - 6
D5306	L - 5
D5307	L - 7
D5308	M - 4
D5309	J - 3
D5400	K - 4
D5401	J - 4
D5404	J - 3
D5405	I - 3
D5809	K - 8
D5811	L - 8
D5812	L - 8
D6200	E - 7
IC	
IC2000	C - 8
IC2001	D - 9
IC2500	F - 8
IC3100	E - 5
IC3200	E - 3
IC5103	L - 3
IC5104	K - 5
IC5200	M - 3
IC5201	L - 4
IC5300	J - 3
IC5301	K - 4
IC5302	M - 4
IC5400	I - 3
IC6200	I - 9
IC6201	I - 8
IC6202	F - 6
IC6203	E - 6
IC6205	K - 5
IC6206	G - 3
IC6207	G - 4
TRANSISTOR	
Q1000	C - 6
Q1001	D - 6
Q1004	D - 11
Q1005	B - 2
Q1006	B - 3
Q2000	C - 9
Q2002	D - 9
Q2003	D - 9
Q2004	E - 7
Q2005	E - 7
Q2501	G - 8
Q2502	G - 9
Q2503	G - 9
Q3200	C - 3
Q3201	C - 2
Q3202	C - 3
Q3204	C - 3
Q3300	F - 3
Q3301	F - 3
Q3302	F - 3
Q3500	F - 3
Q3501	F - 3
Q5101	M - 5
Q5200	M - 4
Q5201	N - 4
Q5202	K - 3
Q5203	J - 2
Q5204	L - 4
Q5205	M - 3
Q5300	M - 4
Q5301	L - 5
Q5302	K - 7
Q5303	M - 4
Q5304	M - 5
Q5305	K - 3
Q5306	K - 4
Q5400	J - 4
Q5401	J - 4
Q5402	J - 5
Q5403	J - 4
Q5404	J - 4
Q5813	J - 8
Q5815	L - 8
Q5816	L - 8
Q7003	H - 6
Q7009	I - 7
Q7011	J - 6
Q7012	J - 5
Q7013	J - 6
Q7014	J - 6
Q7015	I - 5
Q7016	I - 6
Q7017	I - 6
Q7018	I - 5
Q7019	I - 6

~ A Board Semiconductor Voltage Table ~

Ref	(s)	(g)	(d)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)
Q3500	2.7	3.3	3.9	Q2002	0	0	4	Q3204	5	4.4	3.4	Q5205	1.9	1.2	0	Q5813	0	7.9	0	Q7015	11.6	10.9	8.8
Q3501	2.7	3.3	4	Q2003	0	0	4	Q3300	0.7	1.3	5	Q5300	0	0.4	2.2	Q5814	0	0	0	Q7016	6	6.6	10.9
Q5301	0	5.1	51.2	Q2004	3.3	3.9	8.3	Q3301	1.9	1.2	0	Q5301	5.1	0	51.2	Q5815	0	0	5	Q7017	2.7	2	0
Q5404	0	0	0.5	Q2005	3.3	3.9	8.3	Q3302	1.9	1.2	0	Q5302	8.9	5.7	0	Q5816	5	5	0	Q7018	11.6	10.9	8.6
Ref	**(e)**	**(b)**	**(c)**	Q2501	0	0	15.2	Q3500	3.3	2.7	3.9	Q5304	0	0.4	5.6	Q7003	5.6	6.2	8.8	Q7019	6	6.6	10.9
Q1001	3.2	3.9	8.3	Q2502	0	0.7	0	Q3501	3.3	2.7	4	Q3400	0	0	0.1	Q7009	3.2	7	0.1	Q7020	8.9	8.9	0
Q1004	1.9	1.3	0	Q2503	0.6	0.6	0.5	Q5101	0	0.4	6.4	Q5401	0	0	7.9	Q7011	2.5	1.9	0	Q7021	2.7	2.7	8.9
Q1005	0	0.5	5	Q3200	1.9	2.5	4.4	Q5201	2.8	3.4	7.9	Q5402	0	0	-11.3	Q7012	11.6	10.9	8.7				
Q1006	5	4.7	1	Q3201	1.9	2.5	4.4	Q5202	0.2	0.8	11.7	Q5403	-13.5	-11.2	-8.3	Q7013	6	6.6	10.9				
Q2000	4.2	4.8	8.3	Q3202	5	4.4	3.4	Q5203	0.2	0.8	11.7	Q5404	0	0	0.5	Q7014	2.5	1.8	0				

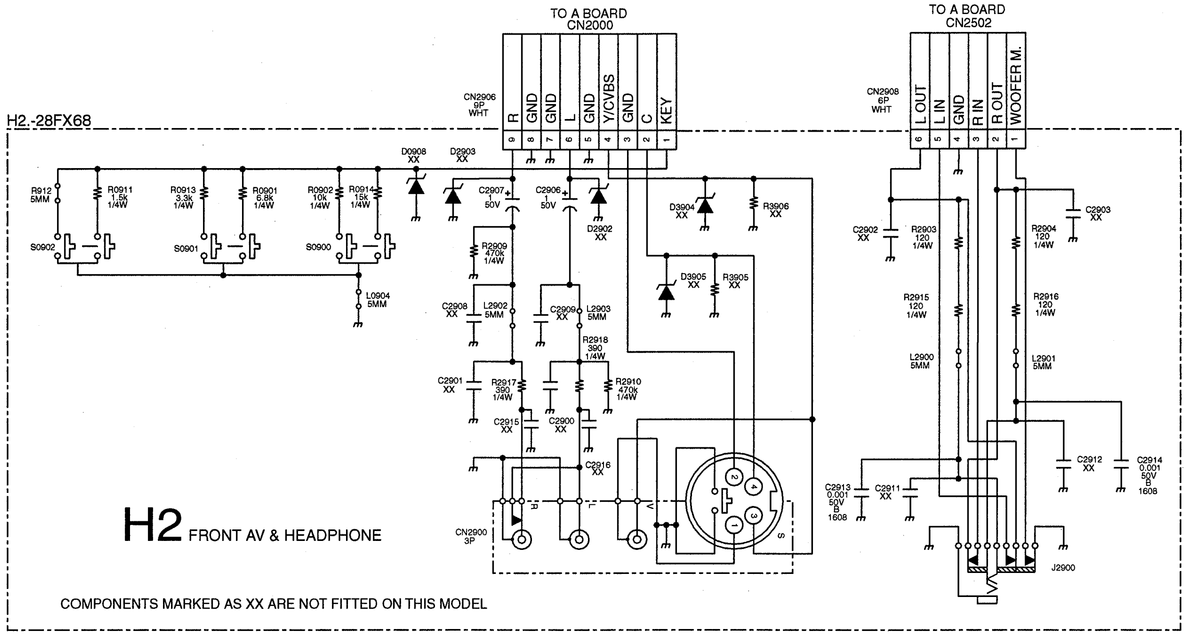
~ A Board IC Voltage Table ~

Ref No	Pin No	Volts (V)
IC5103	1	3.3
	2	3.3
	3	1.9
	4	2.6
	5	2.5
	6	1.8
	7	2
	8	0
	9	3.1
	10	3
	11	5
	12	5
	13	5
	14	0
	15	0
	16	5
IC5300	1	6
	2	6
	3	6
	4	0
	5	6
	6	6
	7	6
	8	12
IC5301	1	1.7
	2	8.5
	3	6.5
	4	0
	5	6.5
	6	7.1
	7	0.4
	8	12
IC5302	1	0
	2	5.8
	3	6.3
	4	0
	5	6.6
	6	6.5
	7	0.4
	8	12
IC5400	1	1.4
	2	13.2
	3	-12.5
	4	-15.4
	5	-0.4
	6	13.7
	7	1.4
IC7002	1	3.6
	2	0
	3	4.4
	4	4.8
	5	3.5
	6	3.4
	7	7.6
	8	0
	9	0
IC7002	10	0.4
	11	1.9
	12	0.4
	13	0.9
	14	5
	15	2.5
	16	0
	17	3
	18	2.7
	19	3.9
	20	0
	21	6.1
	22	2.7
	23	8.8
	24	0
	25	4.3
	26	3.2
	27	5.2
	28	0.3
	29	4.9
	30	3.4
	31	5.6
	32	8.9
	33	0
	34	4.7
	35	4.7
	36	4.7
	37	8.9
IC7002	38	0
	39	4.8
	40	4.8
	41	4.8
	42	0
	43	0
	44	0
	45	6.3
	46	8.9
	47	8.9
	48	6
	49	2.5
	50	4.1
	51	0
	52	6
	53	5.8
	54	5.8
	55	0.4
	56	5.8
	57	5.8
	58	5.8
	59	0.3
	60	0
	61	0
	62	2.9
	63	3.7

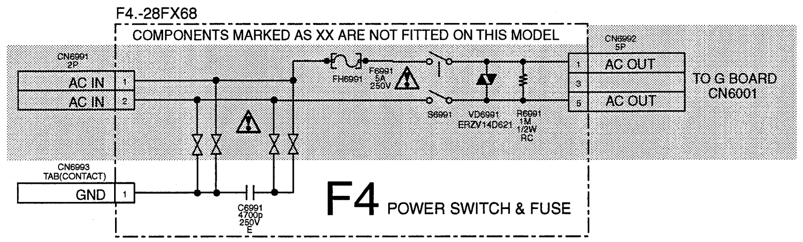
~ A Board Difference Table ~

Ref	28FX68B	28FX68E	28FX68U
TU1000	8-598-535-20 BTF-EF411	8-598-533-10 BTF-EC411	8-598-529-10 BTF-EU611

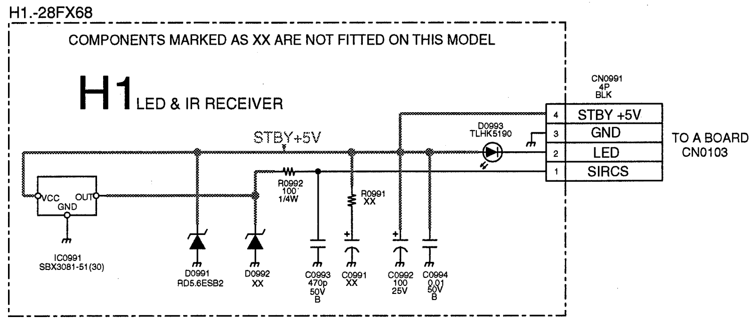
~ H2 Board Schematic Diagram [Front AV & Headphone] ~


TO A BOARD
CN2000
CN2906
9P
WHT
R
GND
GND
L
GND
Y/CVBS
GND
C
KEY
TO A BOARD
CN2502
CN2908
6P
WHT
L OUT
L IN
GND
R IN
R OUT
WOOFER M.
H2.-28FX68
S0902
S0901
S0900
L0904
5MM
CN2900
3P
J2900
H2 FRONT AV & HEADPHONE
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

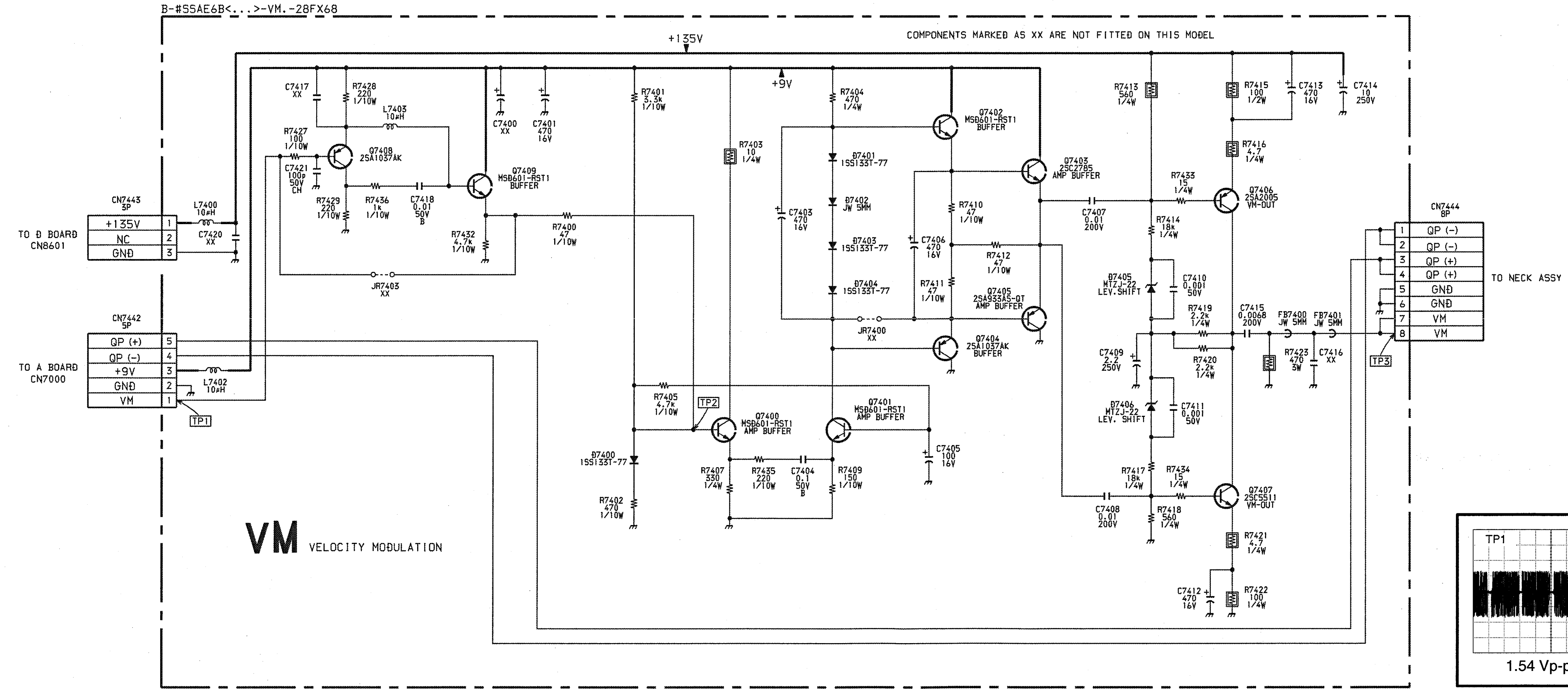
~ F4 Board Schematic Diagram [Power Switch & Fuse] ~


F4.-28FX68
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
CN6991
2P
AC IN
AC IN
CN6992
5P
AC OUT
AC OUT
TO G BOARD
CN6001
F6991
5A
250V
FH6991
S6991
VD6991
ERZV14D621
R6991
1M
1/2W
RC
CN6993
TAB(CONTACT)
GND
C6991
4700p
250V
E
F4 POWER SWITCH & FUSE

~ H1 Board Schematic Diagram [LED & IR Receiver] ~


H1.-28FX68
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
H1 LED & IR RECEIVER
STBY+5V
CN0991
4P
BLK
STBY +5V
GND
LED
SIRCS
TO A BOARD
CN0103
D0993
TLHK5190
VCC
OUT
GND
IC0991
SBX3081-51(30)
D0991
RD5.6ESB2
D0992
XX
R0992
100
1/4W
R0991
XX
C0993
470p
50V
B
C0991
XX
C0992
100
25V
C0994
0.01
50V

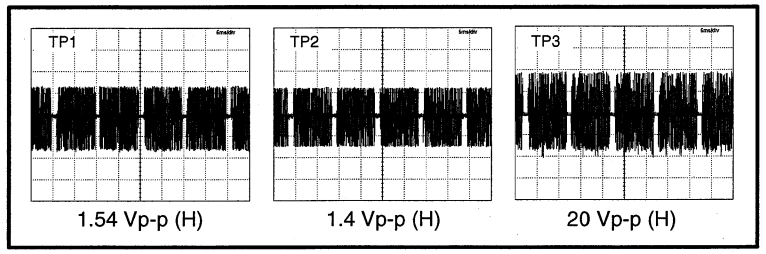
~ VM Board Schematic Diagram [Velocity Modulation] ~

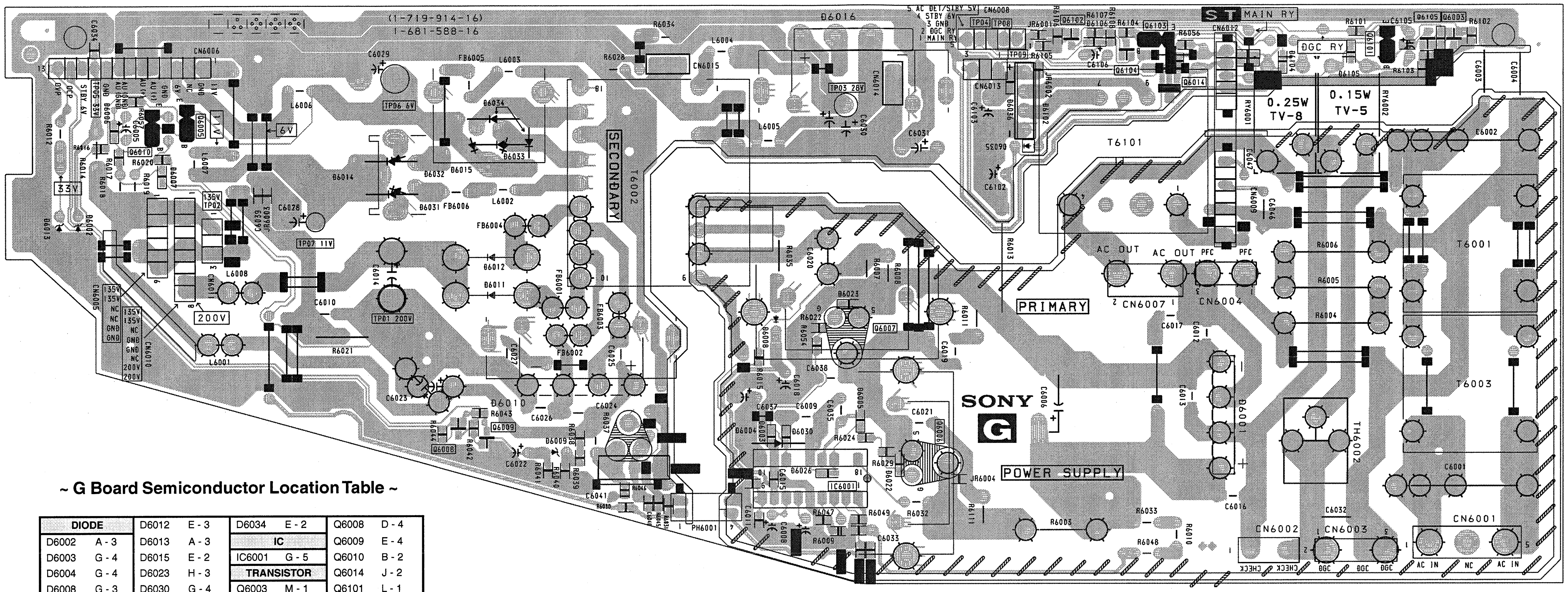

B-#55AE6B<...>-VM.-28FX68
+135V
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
+9V
CN7443
3P
+135V
NC
GND
TO D BOARD
CN8601
L7400
10uH
C7420
XX
CN7442
5P
QP (+)
QP (-)
+9V
GND
VM
TO A BOARD
CN7000
L7402
10uH
TP1
Q7408
2SA1037AK
Q7409
MSD601-RST1
BUFFER
Q7402
MSD601-RST1
BUFFER
Q7403
2SC2785
AMP BUFFER
Q7405
2SA933AS-QT
AMP BUFFER
Q7404
2SA1037AK
BUFFER
Q7400
MSD601-RST1
AMP BUFFER
Q7401
MSD601-RST1
AMP BUFFER
Q7406
2SA2005
VM-OUT
Q7407
2SC5511
VM-OUT
D7400
1SS133T-77
D7401
1SS133T-77
D7402
JW 5MM
D7403
1SS133T-77
D7404
1SS133T-77
D7405
MTZJ-22
LEV.SHIFT
D7406
MTZJ-22
LEV. SHIFT
JR7403
XX
JR7400
XX
TP2
TP3
FB7400
JW 5MM
FB7401
JW 5MM
CN7444
8P
QP (-)
QP (-)
QP (+)
QP (+)
GND
GND
VM
VM
TO NECK ASSY
VM VELOCITY MODULATION

~ VM Board Voltage Table ~

Ref	(e)(s)	(b)(g)	(c)(d)
Q7400	5.0	5.7	8.7
Q7401	0.9	1.5	4.1
Q7402	5.5	6.1	8.9
Q7403	5.1	5.5	8.9
Q7404	4.7	4.1	0
Q7405	5.1	4.7	0
Q7406	134	133.8	68
Q7407	1.1	1.4	68
Q7408	6.3	5.6	2.5
Q7409	5.7	6.3	0.9

~ VM Board Waveforms ~

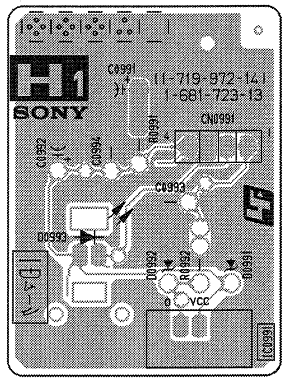



A B C D E F G H I J K L M N
1 2 3 4 5 6 7 8 9 10 11
(1-719-914-16)
1-681-588-16
SECONDARY
PRIMARY
POWER SUPPLY
SONY
G
MAIN RY
DGC RY
0.25W TV-8
0.15W TV-5
T6101
T6001
T6003
T6002
AC OUT
CN6007
CN6004
CN6002
CN6003
CN6001
CN6006
AC IN
TP01 200V
TP06 6V
TP07 11V
200V
33V
6V
IC6001

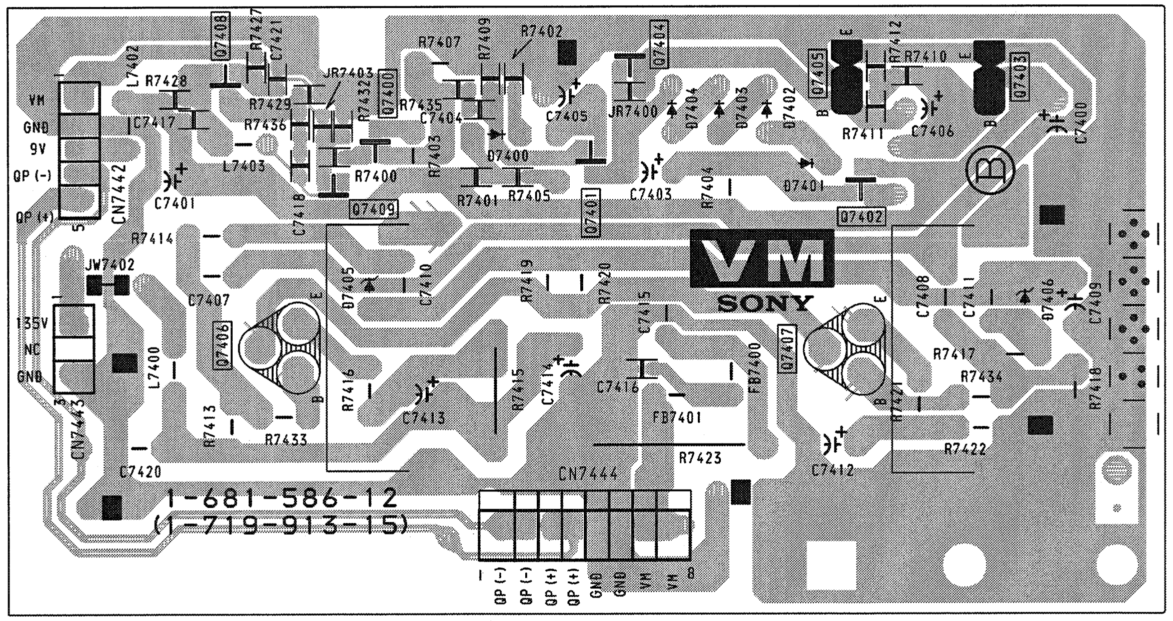
~ G Board Semiconductor Location Table ~

DIODE	
D6002	A - 3
D6003	G - 4
D6004	G - 4
D6008	G - 3
D6009	E - 4
D6010	E - 4
D6011	E - 3
D6012	E - 3
D6013	A - 3
D6015	E - 2
D6023	H - 3
D6030	G - 4
D6031	D - 2
D6032	D - 2
D6033	E - 2
D6034	E - 2
IC	
IC6001	G - 5
TRANSISTOR	
Q6003	M - 1
Q6005	B - 2
Q6006	H - 4
Q6007	H - 3
Q6008	D - 4
Q6009	E - 4
Q6010	B - 2
Q6014	J - 2
Q6101	L - 1
Q6102	J - 1
Q6103	J - 1
Q6105	L - 1

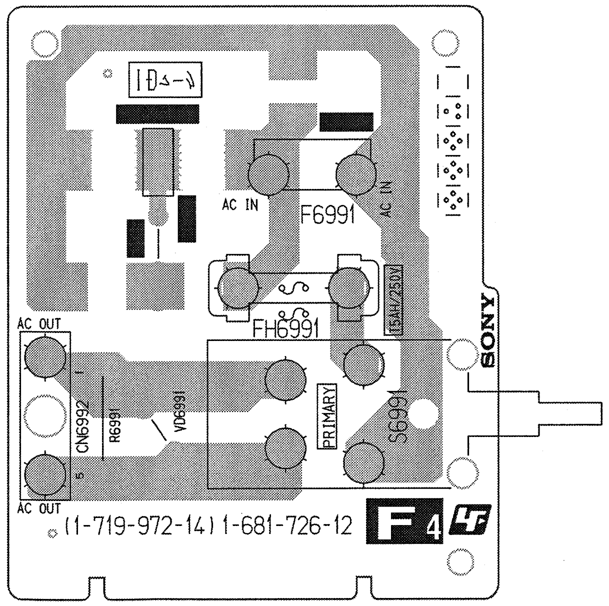
~ G Printed Wiring Board Conductor side ~


H1
SONY
(1-719-972-14)
1-681-723-13
CN0991

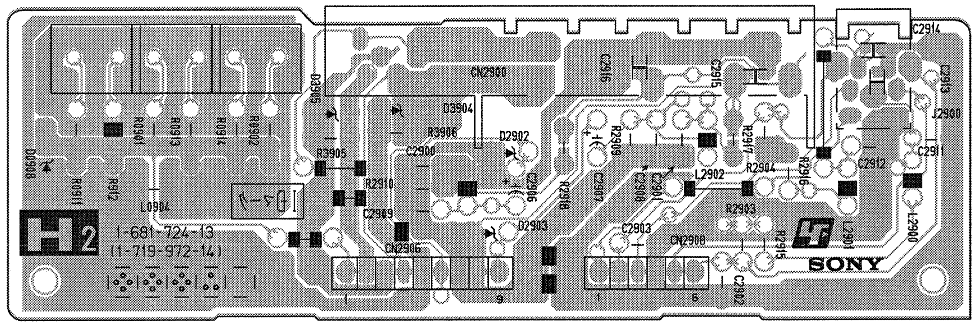
~ H1 Printed Wiring Board Conductor side ~


VM
SONY
1-681-586-12
(1-719-913-15)
CN7442
CN7443
CN7444
VM
GND
9V
135V
NC
GND
QP (-)
QP (+)
B

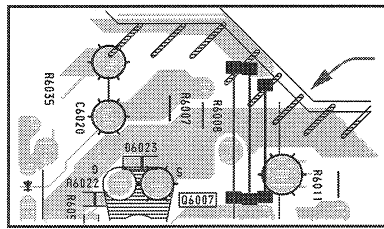
~ VM Printed Wiring Board Conductor side ~


F4
SONY
(1-719-972-14) 1-681-726-12
F6991
FH6991
AC IN
AC OUT
PRIMARY
CN6992
S6991

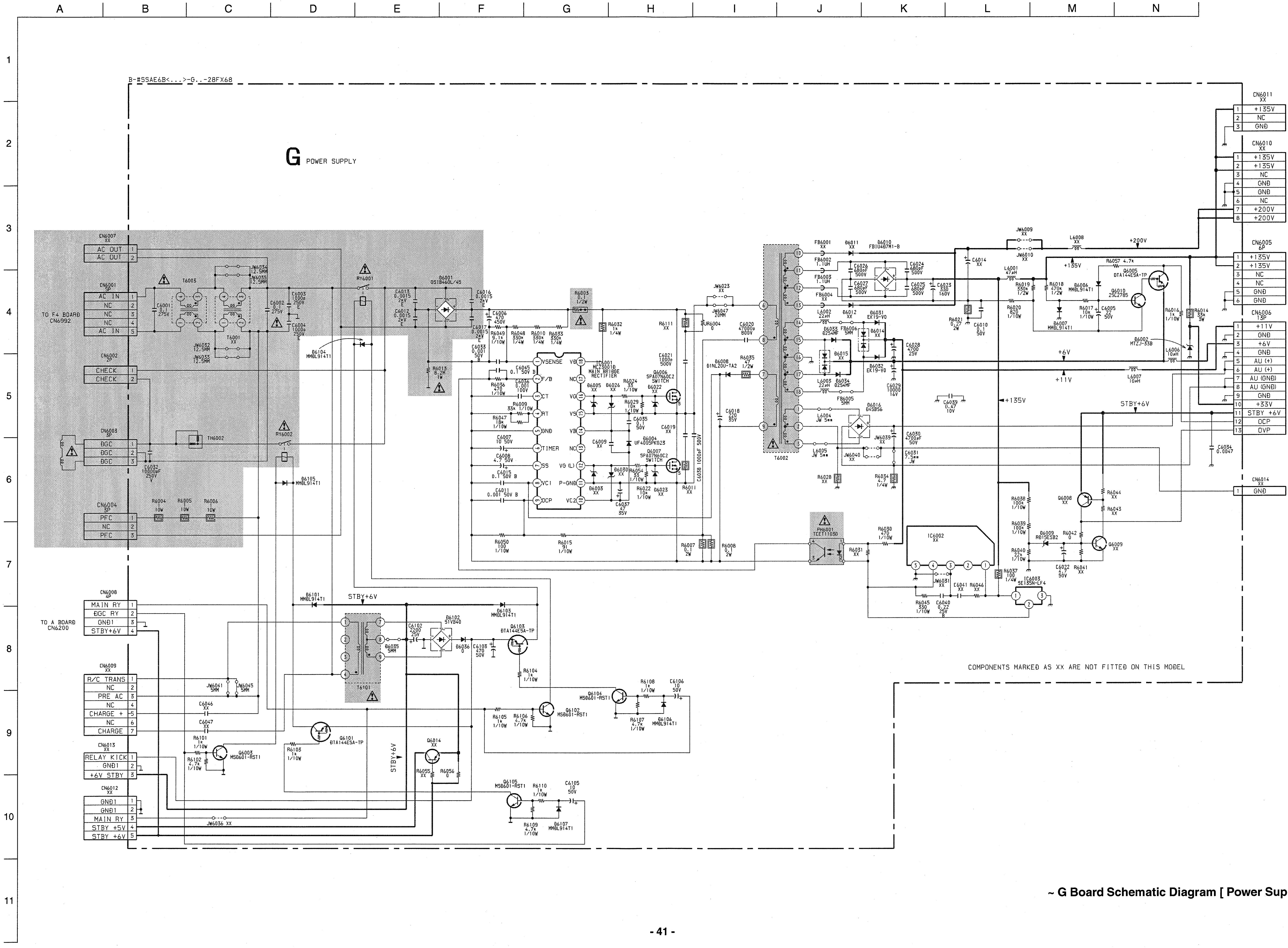
~ F4 Printed Wiring Board Conductor side ~


H2
SONY
1-681-724-13
(1-719-972-14)
CN2900

~ H2 Printed Wiring Board Conductor side ~

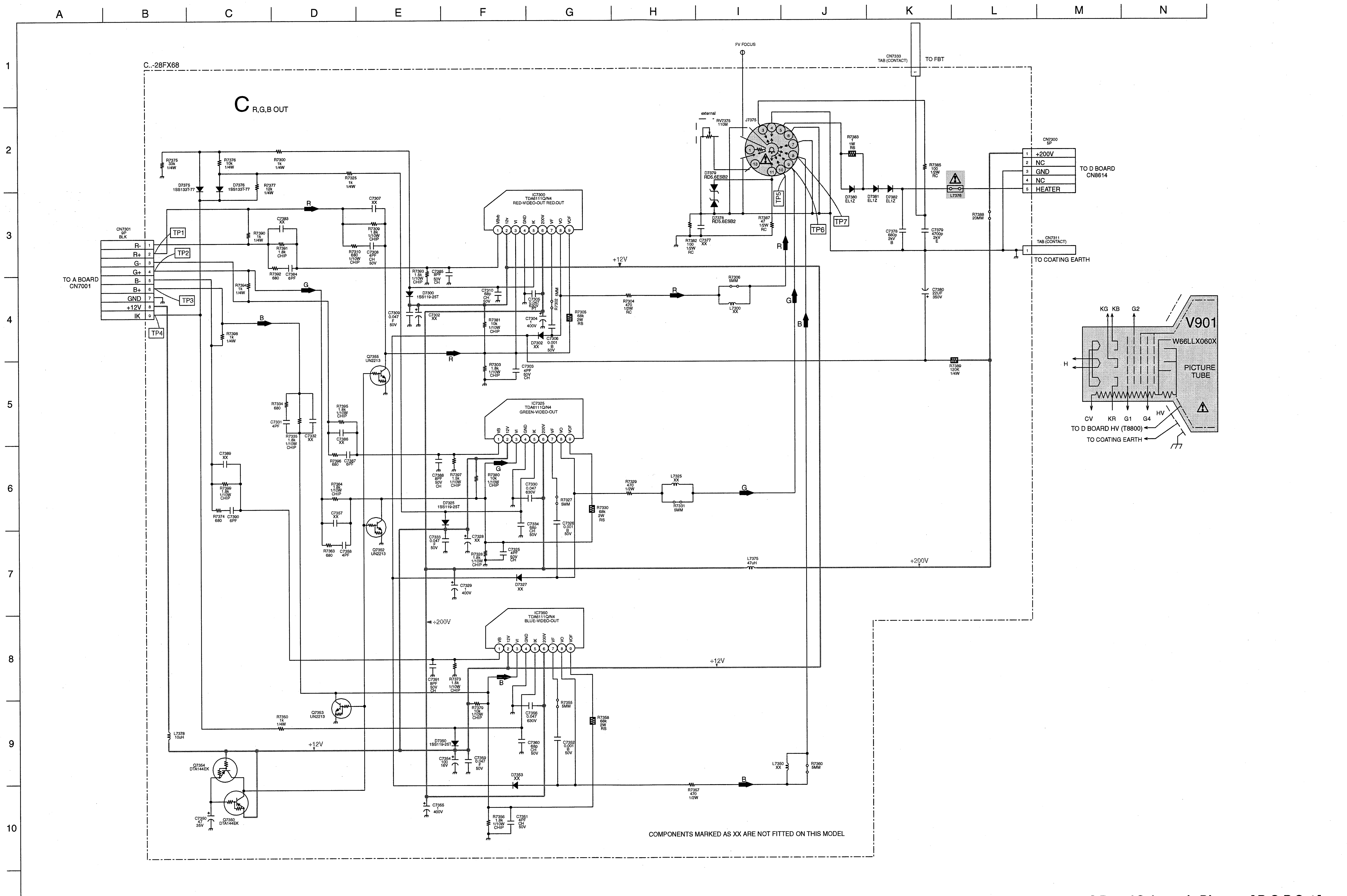

R6035
C6020
R6007
R6008
D6023
R6022
Q6007
R6011

Note :
Portions of the circuit contained within the marked areas as shown have high voltages present. Use care to prevent electric shock during inspection or repair. An Isolation Transformer must be used during any Service work to avoid possible shock hazard due to live chassis. The chassis of this receiver is directly connected to the power line.


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
11
B-#SSAE6B<...>-G..-28FX68
G POWER SUPPLY
CN6007 XX
AC OUT
AC OUT
CN6001 5P
AC IN
NC
NC
NC
AC IN
TO F4 BOARD CN6992
CN6002 2P
CHECK
CHECK
CN6003 3P
DGC
DGC
DGC
TH6002
CN6004 5P
PFC
NC
PFC
R6004 10W
R6005 10W
R6006 10W
T6003
T6001 XX
RY6001
RY6002
D6001 GSIB460L/45
R6013 8.2M 1W
R6003 0.1 1/2W
IC6001 MCZ3001D MAIN BRIDGE RECTIFIER
VSENSE
F/B
CT
RT
GND
TIMER
SS
VCI
OCP
VD
NC
VG
VS
VB
NC
VG (L)
P-GND
VC2
Q6006 SPA07N60C2 SWITCH
Q6007 SPA07N60C2 SWITCH
D6004 UF4005PKG23
D6104 MMBL914T1
D6105 MMBL914T1
T6002
D6010 FBIU407M1-B
D6031 EK19-V0
D6032 EK19-V0
D6016 D4SB56
PH6001 TCET1103G
IC6002 XX
IC6003 SE135N-LF4
Q6005 DTA144ESA-TP
Q6010 2SC2785
D6002 MTZJ-33B
D6009 RD15ESB2
Q6008 XX
Q6009 XX
L6008 XX
JW6009 XX
+200V
+135V
+6V
+11V
STBY+6V
CN6011 XX
+135V
NC
GND
CN6010 XX
+135V
+135V
NC
GND
GND
NC
+200V
+200V
CN6005 6P
+135V
+135V
NC
NC
GND
GND
TO D BOARD CN8600
CN6006 13P
+11V
GND
+6V
GND
AU (+)
AU (+)
AU (GND)
AU (GND)
GND
+33V
STBY +6V
OCP
OVP
TO A BOARD CN6202
CN6014 XX
GND
CN6008 4P
MAIN RY
DGC RY
GND1
STBY+6V
TO A BOARD CN6200
CN6009 XX
R/C TRANS
NC
PRE AC
NC
CHARGE +
NC
CHARGE
CN6013 XX
RELAY KICK
GND1
+6V STBY
CN6012 XX
GND1
GND1
MAIN RY
STBY +5V
STBY +6V
T6101
D6101 MMBL914T1
D6102 S1VB40
D6103 MMBL914T1
Q6103 DTA144ESA-TP
Q6101 DTA144ESA-TP
Q6102 MSD601-RST1
Q6104 MSD601-RST1
Q6105 MSD601-RST1
Q6003 MSD601-RST1
Q6014 XX
D6106 MMBL914T1
D6107 MMBL914T1
JW6036 XX

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

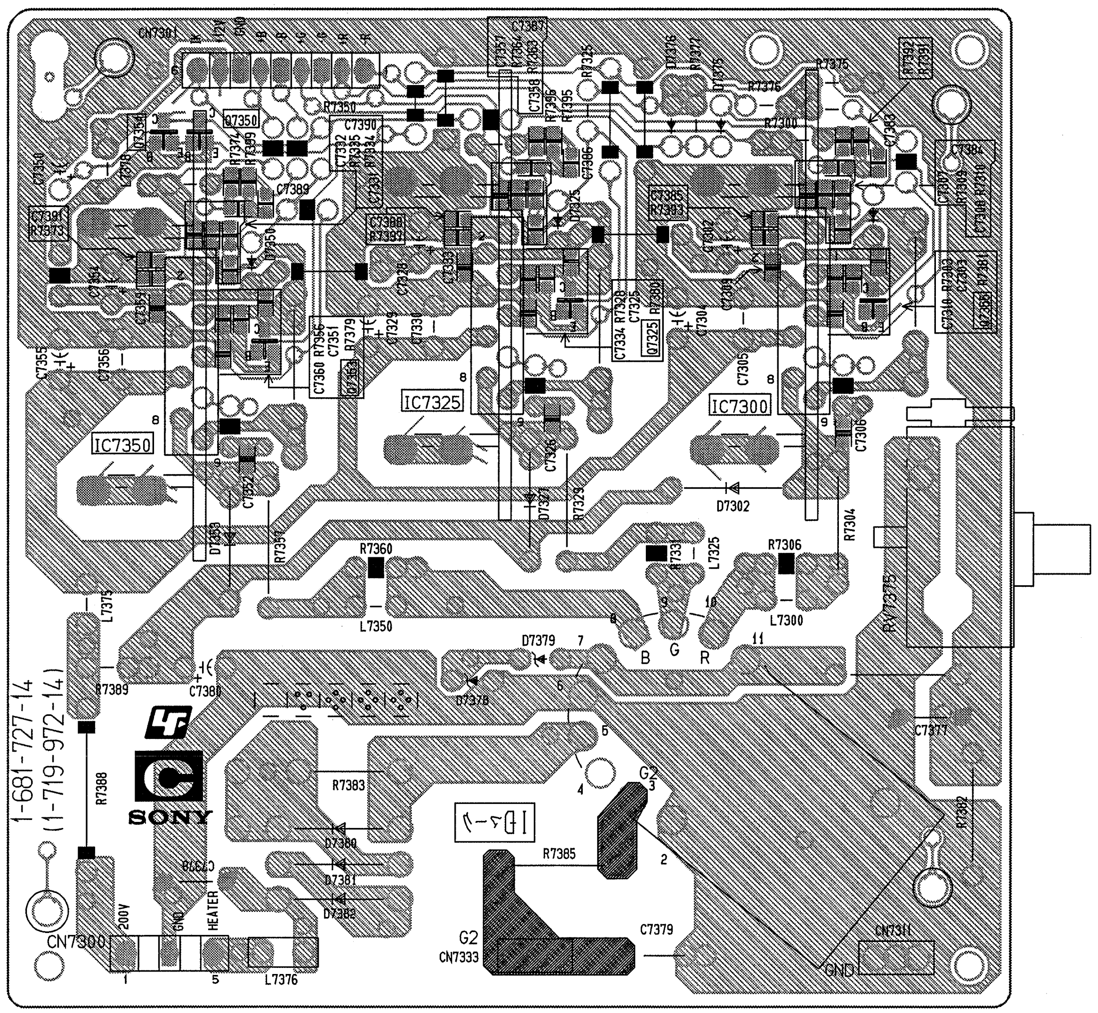
~ G Board Schematic Diagram [Power Supply] ~


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
C..-28FX68
C R,G,B OUT
TO A BOARD CN7001
CN7301 9P BLK
R-
R+
G-
G+
B-
B+
GND
+12V
IK
TP1
TP2
TP3
TP4
TP5
TP6
TP7
R
G
B
+12V
+200V
IC7300 TDA6111Q/N4 RED-VIDEO-OUT RED.OUT
IC7325 TDA6111Q/N4 GREEN-VIDEO-OUT
IC7350 TDA6111Q/N4 BLUE-VIDEO-OUT
VB
12V
VI
GND
IK
200V
VF
VO
VOF
Q7355 UN2213
Q7352 UN2213
Q7353 UN2213
Q7354 DTA144EK
Q7350 DTA144EK
L7378 10uH
L7375 47uH
FV FOCUS
external
RV7375 110M
J7375
D7379 RD5.6ESB2
D7378 RD5.6ESB2
CN7333 TAB (CONTACT)
TO FBT
D7380 EL1Z
D7381 EL1Z
D7382 EL1Z
L7376
CN7300 5P
+200V
NC
GND
NC
HEATER
TO D BOARD CN8614
CN7311 TAB (CONTACT)
TO COATING EARTH
R7389 120K 1/4W
C7380 22UF 350V
V901
W66LLX060X
PICTURE TUBE
KG
KB
G2
H
CV
KR
G1
G4
HV
TO D BOARD HV (T8800)
TO COATING EARTH

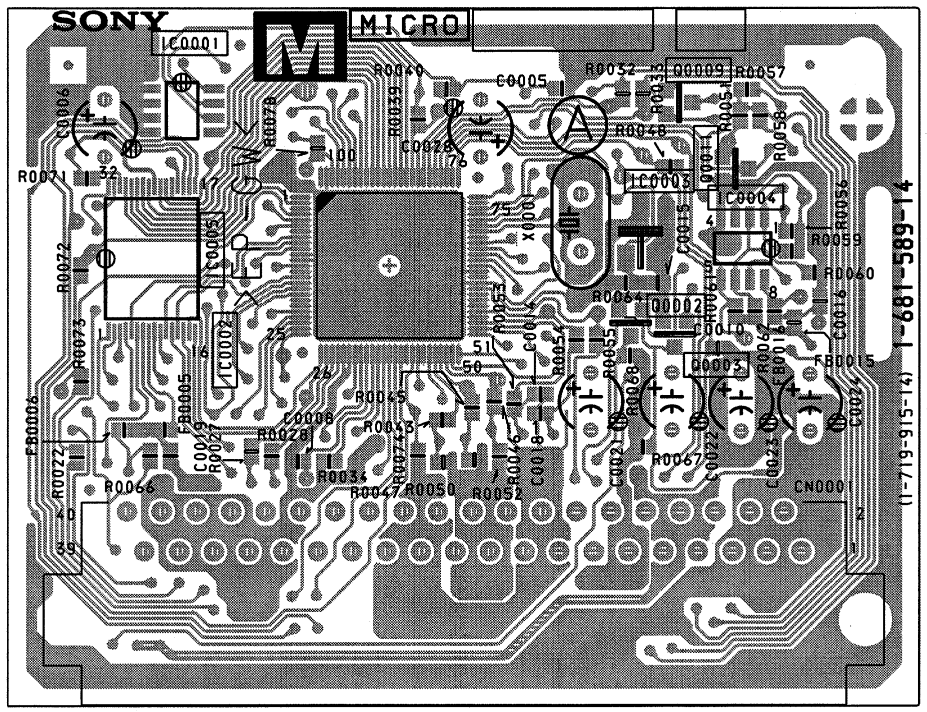
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ C Board Schematic Diagram [R-G-B Out] ~

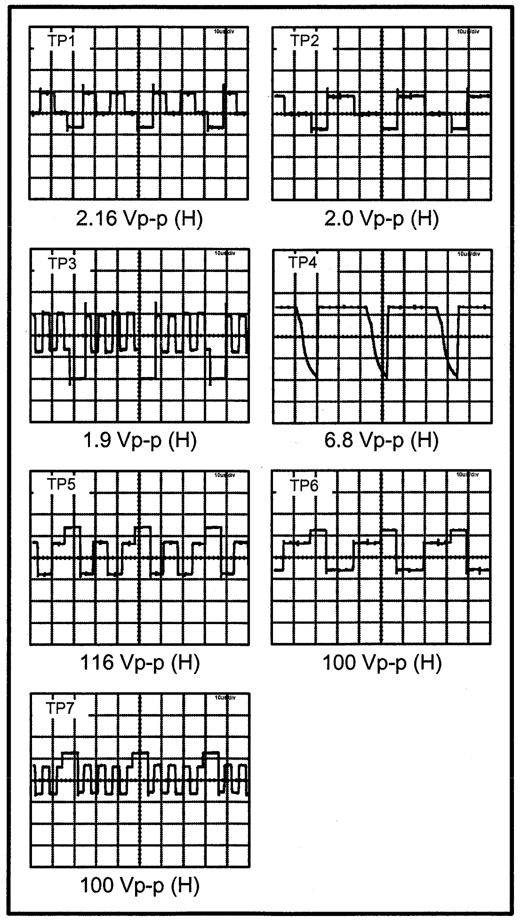
~ C Printed Wiring Board Conductor side ~


1-681-727-14
(1-719-972-14)
SONY
IC7350
IC7325
IC7300
CN7300
CN7301
CN7333
CN7311
RV7375
G2
GND
HEATER
200V
B
G
R

~ M Printed Wiring Board Conductor side A ~


SONY
M
MICRO
1-681-589-14
(1-719-915-14)
IC0001
IC0002
IC0003
IC0004
X0001
CN0001
A

~ C Board Waveforms ~



2.16 Vp-p (H)

2.0 Vp-p (H)

1.9 Vp-p (H)

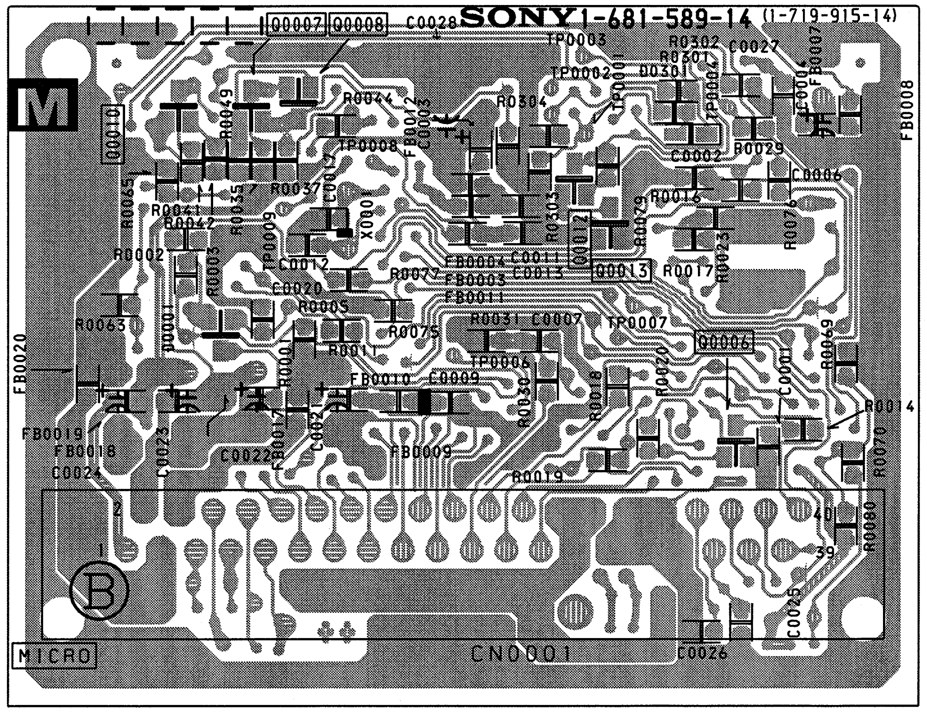
6.8 Vp-p (H)

116 Vp-p (H)

100 Vp-p (H)

100 Vp-p (H)

~ M Printed Wiring Board Conductor side B ~

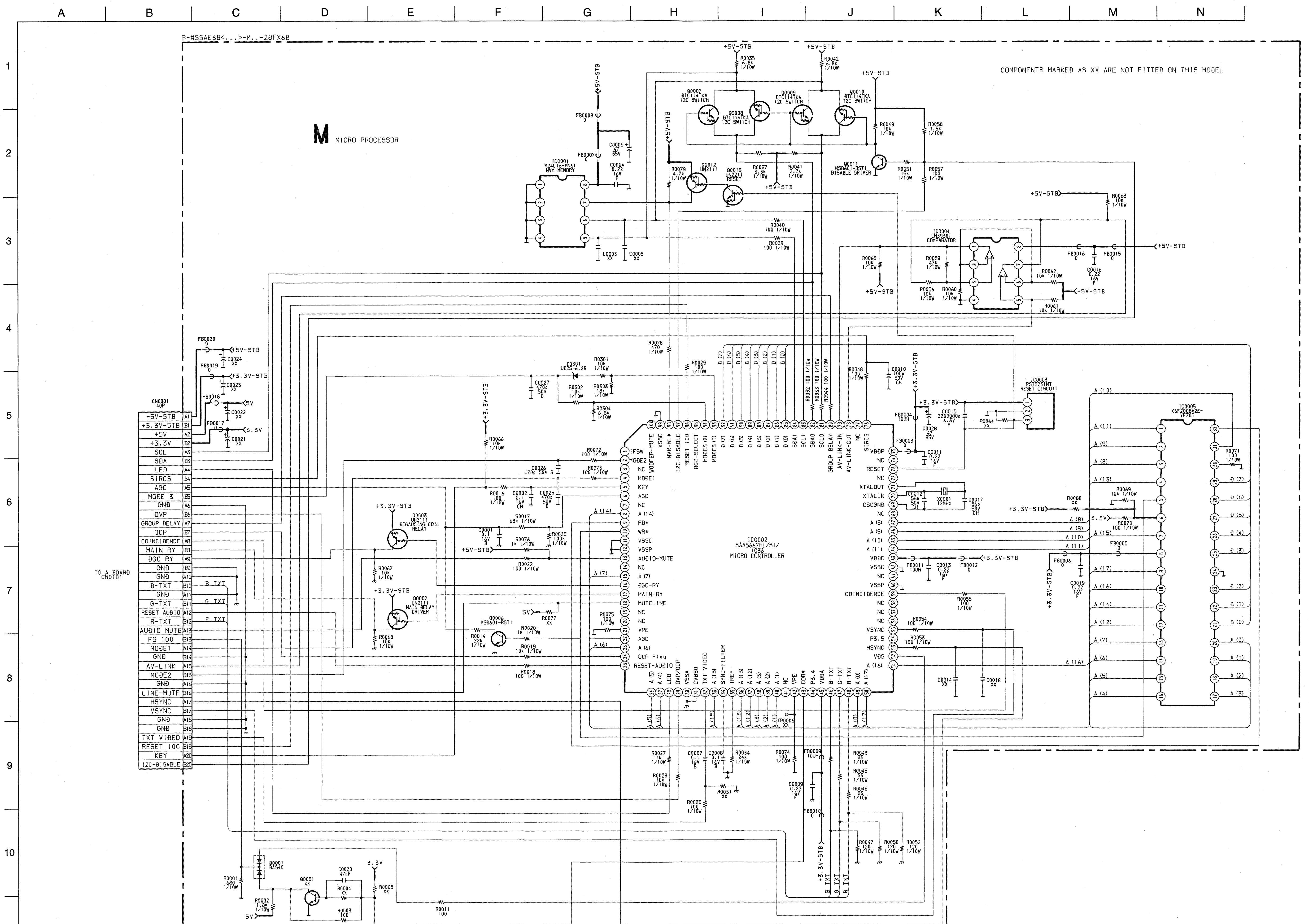

SONY 1-681-589-14 (1-719-915-14)
M
MICRO
CN0001
B

~ C Board Semiconductor Voltage Table ~

Ref	(e)	(b)	(c)
Q7350	12	11.98	0
Q7352	0	0	3.8
Q7353	0	0	3.8
Q7354	11.98	12	0
Q7355	0	0	3.8

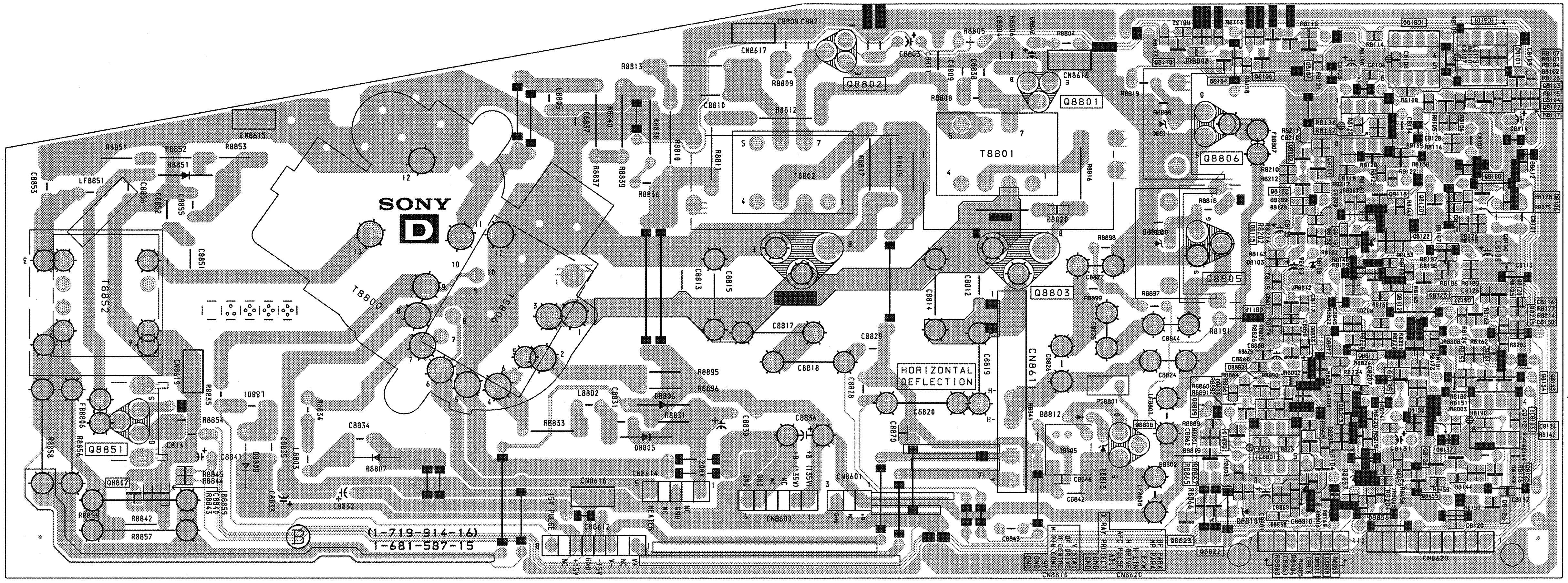
~ C Board IC Voltage Table ~

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC7300	1	3.9
	3	3.8
	5	7.5
	6	200
	7	140
	8	153
	9	140
IC7325	1	3.9
	3	3.8
	5	7.7
	6	200
	7	140
	8	153
	9	140
IC7350	1	3.9
	3	3.8
	5	7.5
	6	200
	7	139
	8	148
	9	138

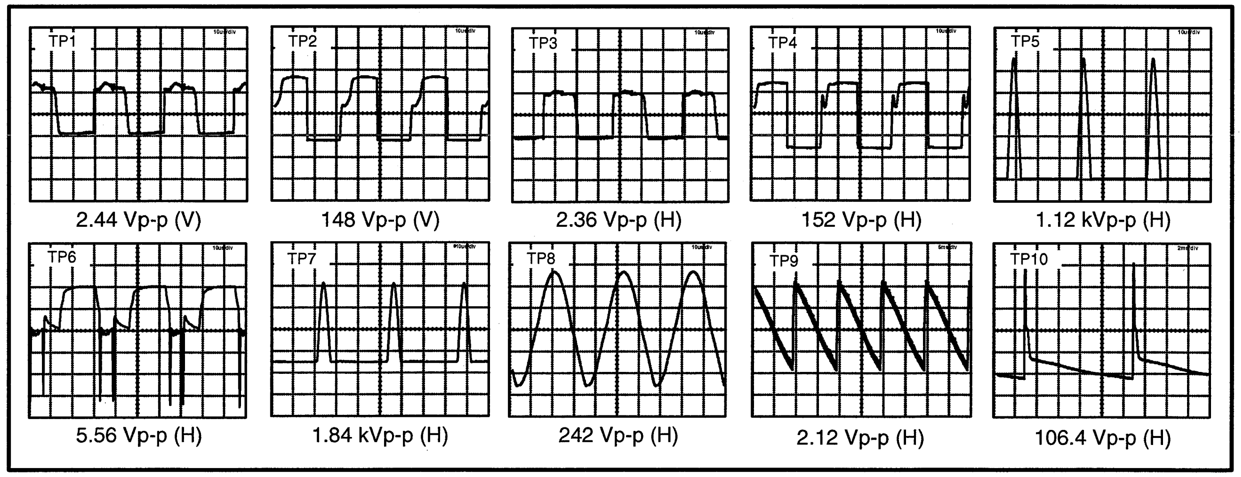

A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
11
B-#SSAE6B<...>-M..-28FX68
M MICRO PROCESSOR
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
IC0001 M24C16-MN6T NVM MEMORY
IC0002 SAA5667HL/M1/1036 MICRO CONTROLLER
IC0003 PST573IMT RESET CIRCUIT
IC0004 LM393BT COMPARATOR
IC0005 K6F2008V2E-YF701
Q0007 DTC114TKA I2C SWITCH
Q0008 DTC114TKA I2C SWITCH
Q0009 DTC114TKA I2C SWITCH
Q0010 DTC114TKA I2C SWITCH
Q0011 MSD601-RST1 DISABLE DRIVER
Q0012 UN2111
Q0013 UN2211 RESET
Q0003 UN2111 DEGAUSING COIL RELAY
Q0002 UN2111 MAIN DELAY DRIVER
Q0006 MSD601-RST1
Q0001 XX
D0301 UDZS-6.2B
D0001 BAS40
X0001 12MHz
CN0001 40P
TO A BOARD CN0101
+5V-STB A1
+3.3V-STB B1
+5V A2
+3.3V B2
SCL A3
SDA B3
LED A4
SIRCS B4
AGC A5
MODE 3 B5
GND A6
OVP B6
GROUP DELAY A7
OCP B7
COINCIDENCE A8
MAIN RY B8
DGC RY A9
GND B9
GND A10
B-TXT B10
GND A11
G-TXT B11
RESET AUDIO A12
R-TXT B12
AUDIO MUTE A13
FS 100 B13
MODE1 A14
GND B14
AV-LINK A15
MODE2 B15
GND A16
LINE-MUTE B16
HSYNC A17
VSYNC B17
GND A18
GND B18
TXT VIDEO A19
RESET 100 B19
KEY A20
I2C-DISABLE B20
+5V-STB
+3.3V-STB
5V
3.3V

~ M Board Schematic Diagram [MicroProcessor] ~

~ D Printed Wiring Board Conductor side ~


SONY
D
T8800
T8806
T8852
T8801
T8802
Q8801
Q8802
Q8803
Q8805
Q8806
Q8851
HORIZONTAL
DEFLECTION
CN8610
CN8614
CN8615
CN8616
CN8617
CN8619
CN8600
CN8601
CN8612
CN8620
(1-719-914-16)
1-681-587-15

~ D Board Waveforms ~



2.44 Vp-p (V) | 148 Vp-p (V) | 2.36 Vp-p (H) | 152 Vp-p (H) | 1.12 kVp-p (H)

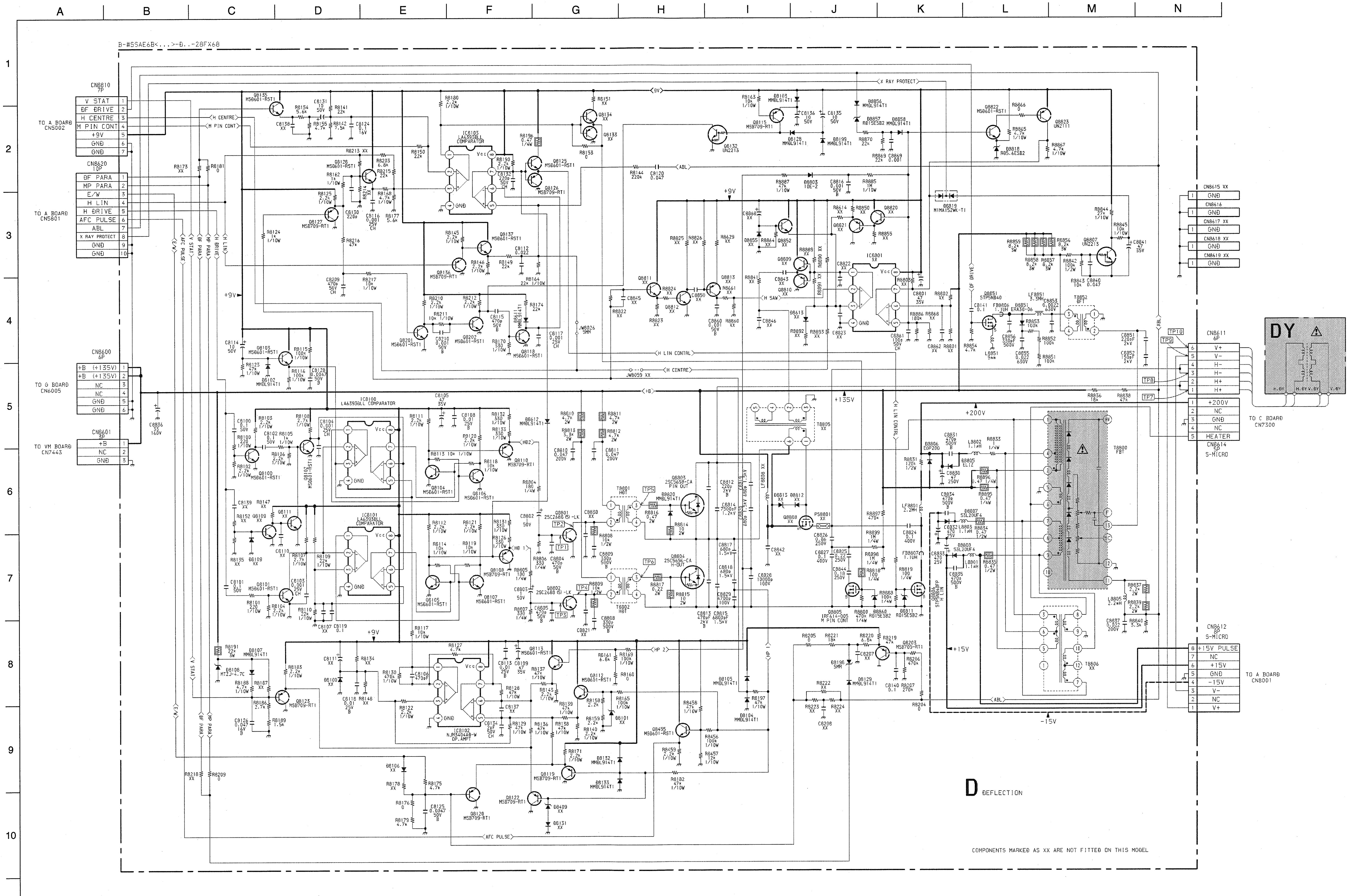
5.56 Vp-p (H) | 1.84 kVp-p (H) | 242 Vp-p (H) | 2.12 Vp-p (H) | 106.4 Vp-p (H)

~ D Board IC Voltage Table ~

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC8100	1	0.3
	2	4.3
	3	4.1
	5	4.1
	6	3.0
	7	0.4
IC8101	1	0.3
	2	4.3
	3	4.4
	5	4.4
	6	3.0
	7	0.4
IC8102	1	4.1
	2	0.4
	3	0.4
	5	0.4
	6	0.4
	7	0.4
IC8103	1	2.5
	2	2.1
	3	1.7
	5	1.6
	6	1.0
	7	1.1

~ D Board Semiconductor Voltage Table ~

Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)
Q8100	0	0.6	3.6	Q8110	2.4	3.1	0	Q8128	3.4	1.5	8.9	Q8801	0	0.4	64.7
Q8101	0	0.6	4.3	Q8113	0.3	0.2	8.9	Q8132	0	0	3.4	Q8802	0	0.4	73.2
Q8102	0	0.3	4.3	Q8115	8.6	8.9	0	Q8135	2.6	3.2	8.9	Q8807	0	6.3	0
Q8103	4.0	0	8.9	Q8118	0	0	5.0	Q8136	2.5	1.8	0	Q8818	0	0	5.0
Q8104	0	0.4	3.1	Q8119	0.7	1.4	0	Q8137	1.8	2.5	8.9	Q8822	5.5	4.9	0
Q8105	0	0.4	3.2	Q8120	0.7	2.3	0	Q8201	0	0.6	3.9	Q8823	8.9	8.5	0
Q8106	0	0.3	4.3	Q8122	0.5	1.4	0	Q8202	0	0.8	3.4	Q8805	0	2.5	33
Q8107	0	0.3	4.2	Q8123	0.5	1.4	0	Q8203	1.4	0.9	0	Q8806	0	1.2	135
Q8108	2.4	3.2	0	Q8127	1.4	1.5	0	Q8455	1.1	1.7	8.9	Q8851	0	5.4	81.5

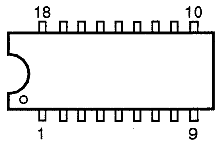


B-#SSAE6B<...>-D..-28FX68
CN8810 7P
V STAT
DF DRIVE
H CENTRE
M PIN CONT
+9V
GND
TO A BOARD CN5002
CN8620 10P
DF PARA
MP PARA
E/W
H LIN
H DRIVE
AFC PULSE
ABL
X RAY PROTECT
TO A BOARD CN5801
CN8600 6P
+B (+135V)
NC
TO G BOARD CN6005
CN8601 3P
+B
TO VM BOARD CN7443
IC8103 LA6393DLL COMPARATOR
IC8100 LA6393DLL COMPARATOR
IC8101 LA6393DLL COMPARATOR
IC8102 NJM3404AB-W OP.AMPT
IC8801
X RAY PROTECT
H CENTRE
M PIN CONT
H LIN CONTRL
AFC PULSE
ABL
HP 2
+9V
+B
+135V
+200V
+15V
-15V
T8801 HDT
T8802 HDT
T8805
T8806
T8800 FBT
T8852 DFT
Q8803 2SC5698-CA PIN OUT
Q8804 2SC5696-CA H-OUT
Q8805 IRF614-005 M PIN CONT
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
CN8615 XX
CN8616
CN8617 XX
CN8618 XX
CN8619 XX
CN8611 6P
V+
V-
H-
H+
DY
H.DY
V.DY
TO C BOARD CN7300
CN8614 5P S-MICRO
+200V
HEATER
CN8612 8P S-MICRO
+15V PULSE
+15V
-15V
TO A BOARD CN8001
D DEFLECTION
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

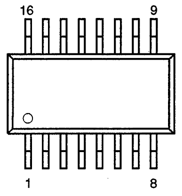
~ D Board Schematic Diagram [Deflection] ~

5-4. SEMICONDUCTORS

CXAB070AP
MCZ3001D

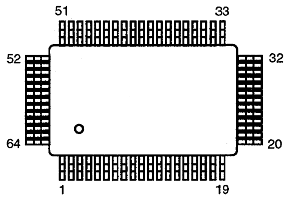


CXA1875AM-T4



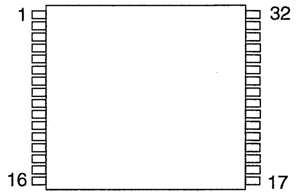
(TOP VIEW)

CXA2100AQ-TL

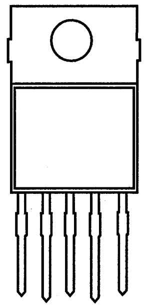

51
33
52
32
64
20
1
19

(TOP VIEW)

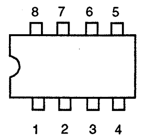
K6T2008V2E-YF70T



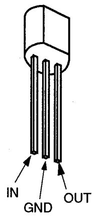
LA6500-FA



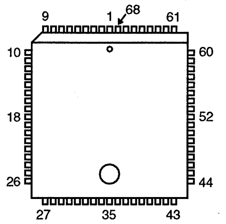
LM318P
LM358N
LM393DT
LM393N
M24C16-MN6T(A)



LM78L05ACZ

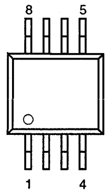


MSP3411G-QA-B11


9
1
68
61
10
60
18
52
26
44
27
35
43

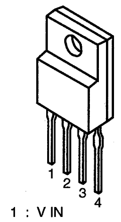
(TOP VIEW)

NJM3404AD-W
UPC4558G2



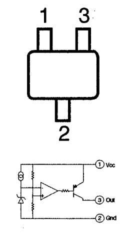
(TOP VIEW)

PQ30RV11

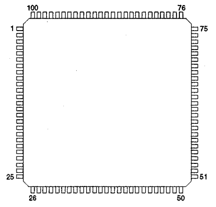


1 : V IN
2 : V OUT
3 : GND
4 : ON/OFF CONTROL

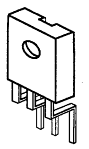
PST573IMT



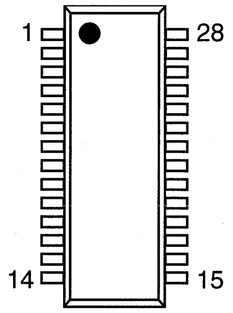
SAA5665HL/M1D/0358


100
76
1
75
25
51
26
50

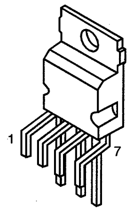
SBX3081-51(30)



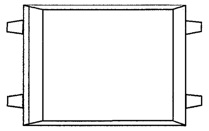
SDA9488X-B23GEG



STV9379



TCET1103G



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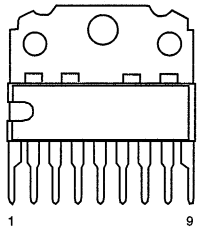
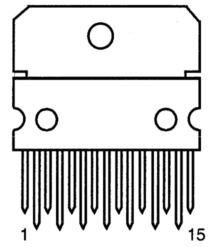
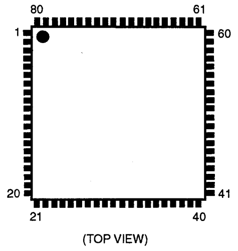


TDA7497

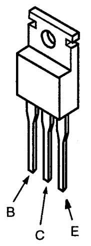


VPS9402-A32GEG

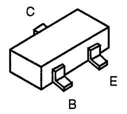

80
61
1
60
20
41
21
40

(TOP VIEW)

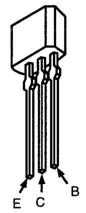
BA12T
BAO33T
IRF614-005
IRF620
SPA07N60C2
2SA2005
2SC5511



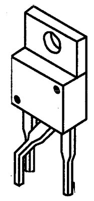
DTA144EK
DTC144TKA-T146
2SA1162-G



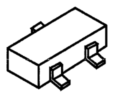
DTA144ESA
2SA933AS-QT
2SC2785-HFE



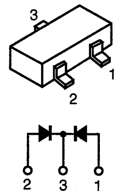
L7809CV/LSY
STP5NB40FP
STP5NB40(030Y)
2SC5698-CA
2S5696-SONY-CA



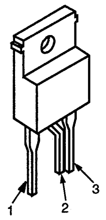
MSB709-RT1
MSD601-RST1
M1MA152WA-T1
UN2111
UN213
2SK2036(TE85L)



RB705D

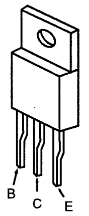


SE135N-LF4

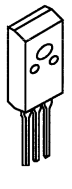


1 V OUT SENSE
2 COLLECTOR
3 GND

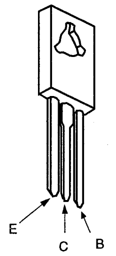
2SA1837(LBS2S0N)



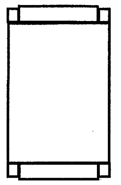
2SB734-34



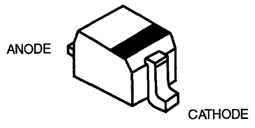
2SC2688(5)-LK



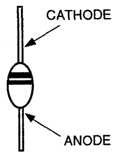
BAS216



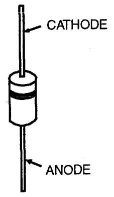
BAS316-115
MMDL914T1
UDZSTE-176.2B


ANODE
CATHODE

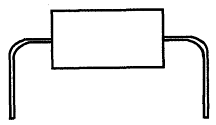
BYV98-200-RAS 15/12


CATHODE
ANODE

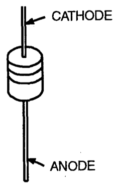
D1NL20U
EGP20G
EL1Z
GP08D
UF4005PKG23


CATHODE
ANODE

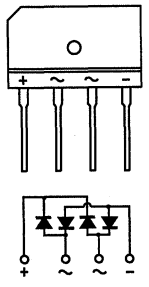
D2S4MTA1



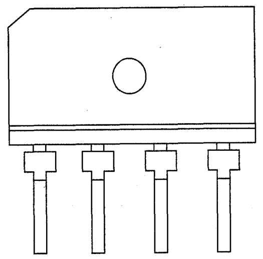
ERA38-06
ERA85-009
HZS9.1NB2
MTZJ-13B
MTZJ-33B
MTZJ-3.6A
MTZJ-4.7C
MTZJ-T-77-22
RD5.6ESB2
RD15ES-B2
RD39ES-B2
RD5.6ESB2
1SS119-25
1SS133T-77


CATHODE
ANODE

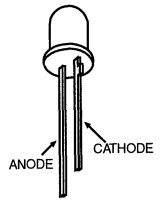
FBIU4D7MA-B
RBV-406B
S1VB40



GS1B460/45

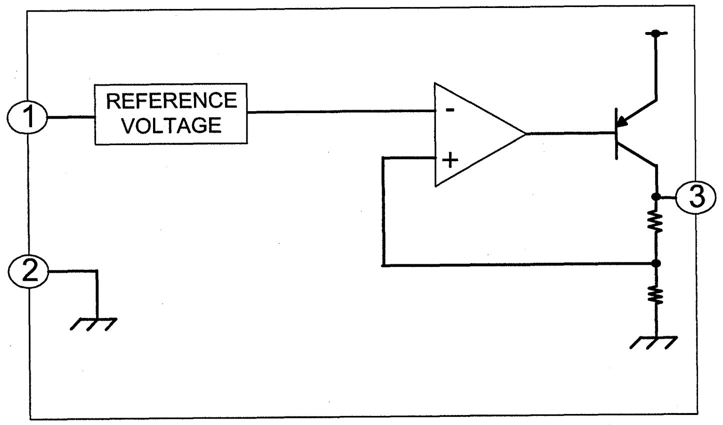


TLHK5190

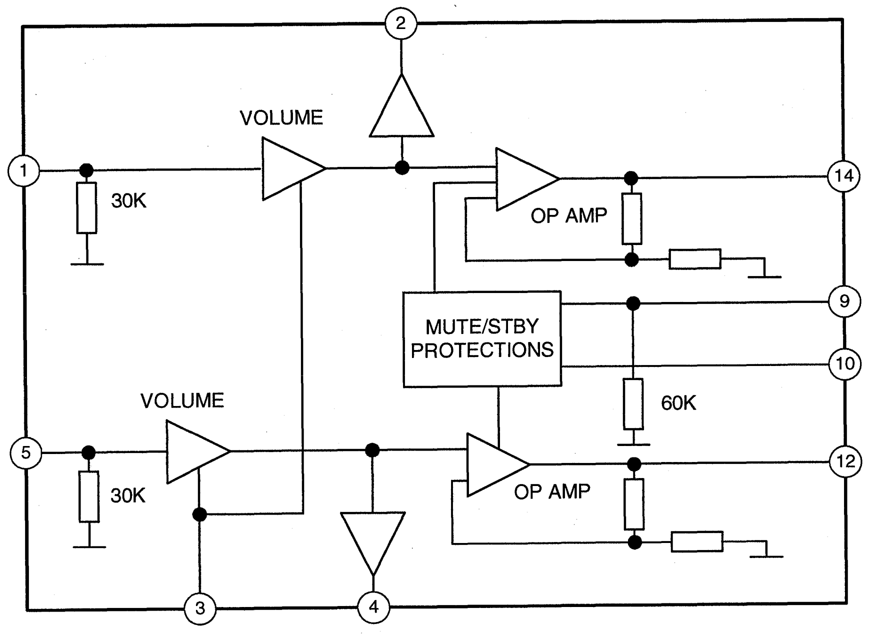

ANODE
CATHODE

5-5 IC BLOCK DIAGRAMS

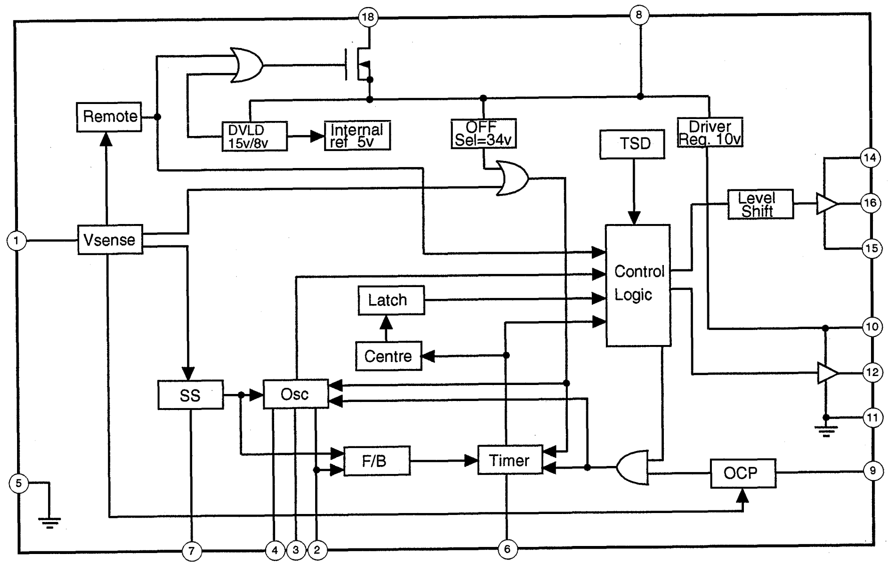
A BOARD IC6202/IC6205 BA033T/BA12T


1
REFERENCE VOLTAGE
-
+
3
2

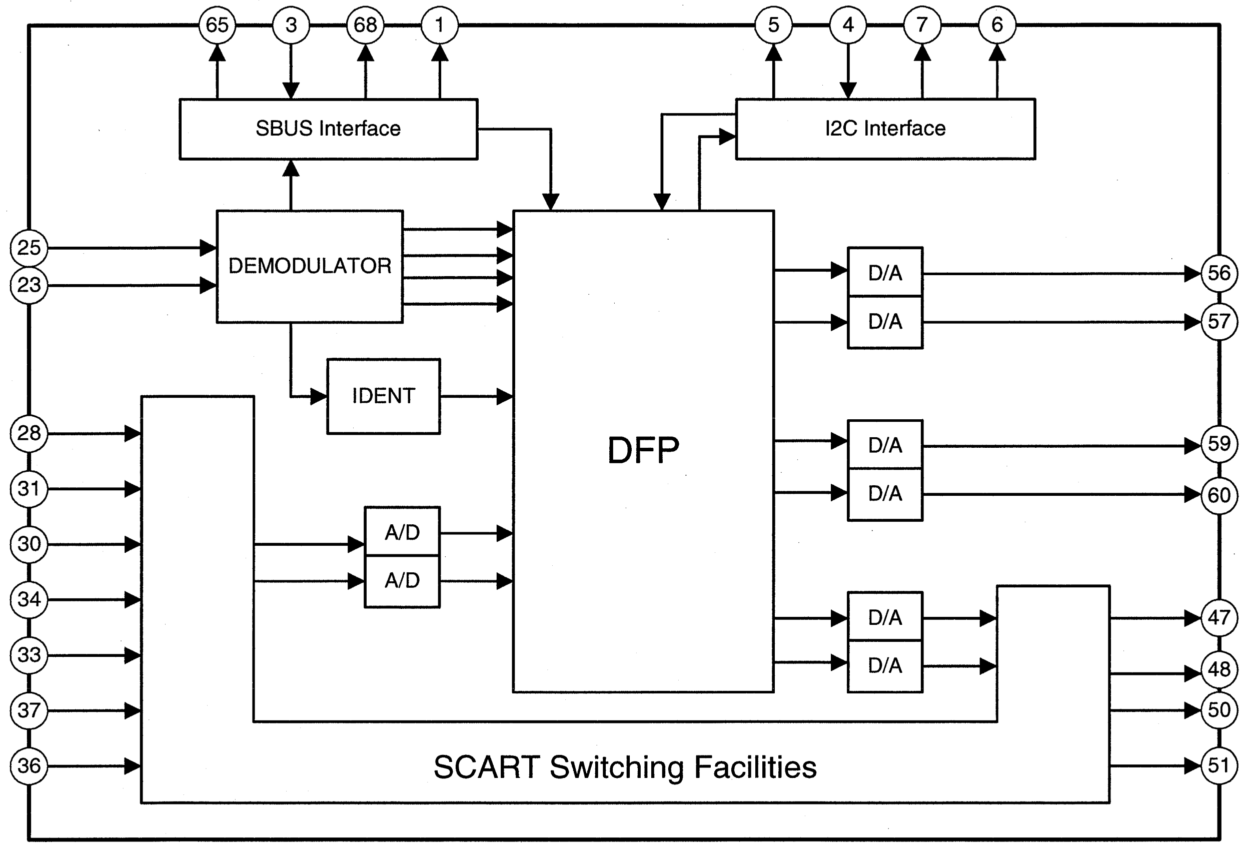
A BOARD IC2500 TDA7497


2
VOLUME
1
30K
14
OP AMP
MUTE/STBY PROTECTIONS
9
10
VOLUME
60K
5
12
30K
OP AMP
3
4

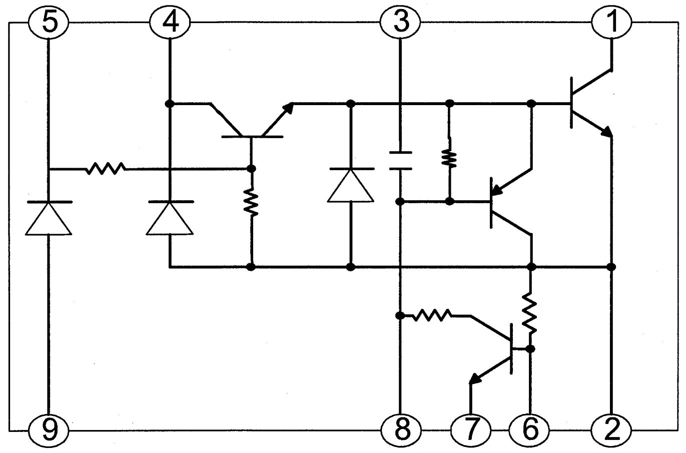
G BOARD IC6001 MCZ3001D


18
8
Remote
DVLD 15v/8v
Internal ref 5v
OFF Sel=34v
TSD
Driver Reg. 10v
14
Level Shift
16
15
1
Vsense
Control Logic
Latch
Centre
10
12
SS
Osc
11
F/B
Timer
OCP
9
5
7
4
3
2
6

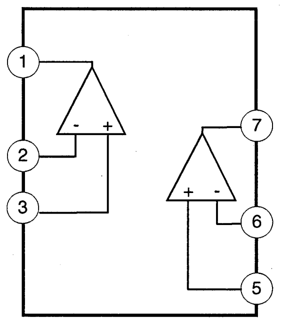
A BOARD IC2000 MSP3411G


65
3
68
1
5
4
7
6
SBUS Interface
I2C Interface
25
23
DEMODULATOR
IDENT
DFP
D/A
D/A
D/A
D/A
D/A
D/A
A/D
A/D
56
57
59
60
47
48
50
51
28
31
30
34
33
37
36
SCART Switching Facilities

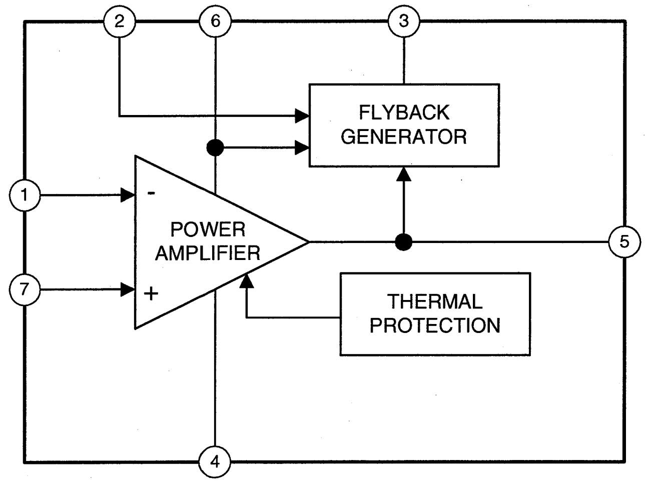
G BOARD IC6003 SE135N-LF4



A BOARD IC5301/IC5302 LA6393DLL



A BOARD IC5400 STV9379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FLYBACK GENERATOR
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POWER AMPLIFIER
5
THERMAL PROTECTION
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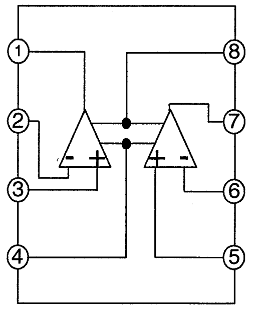
A BOARD IC5300 LM358N



SECTION 6
EXPLODED VIEWS

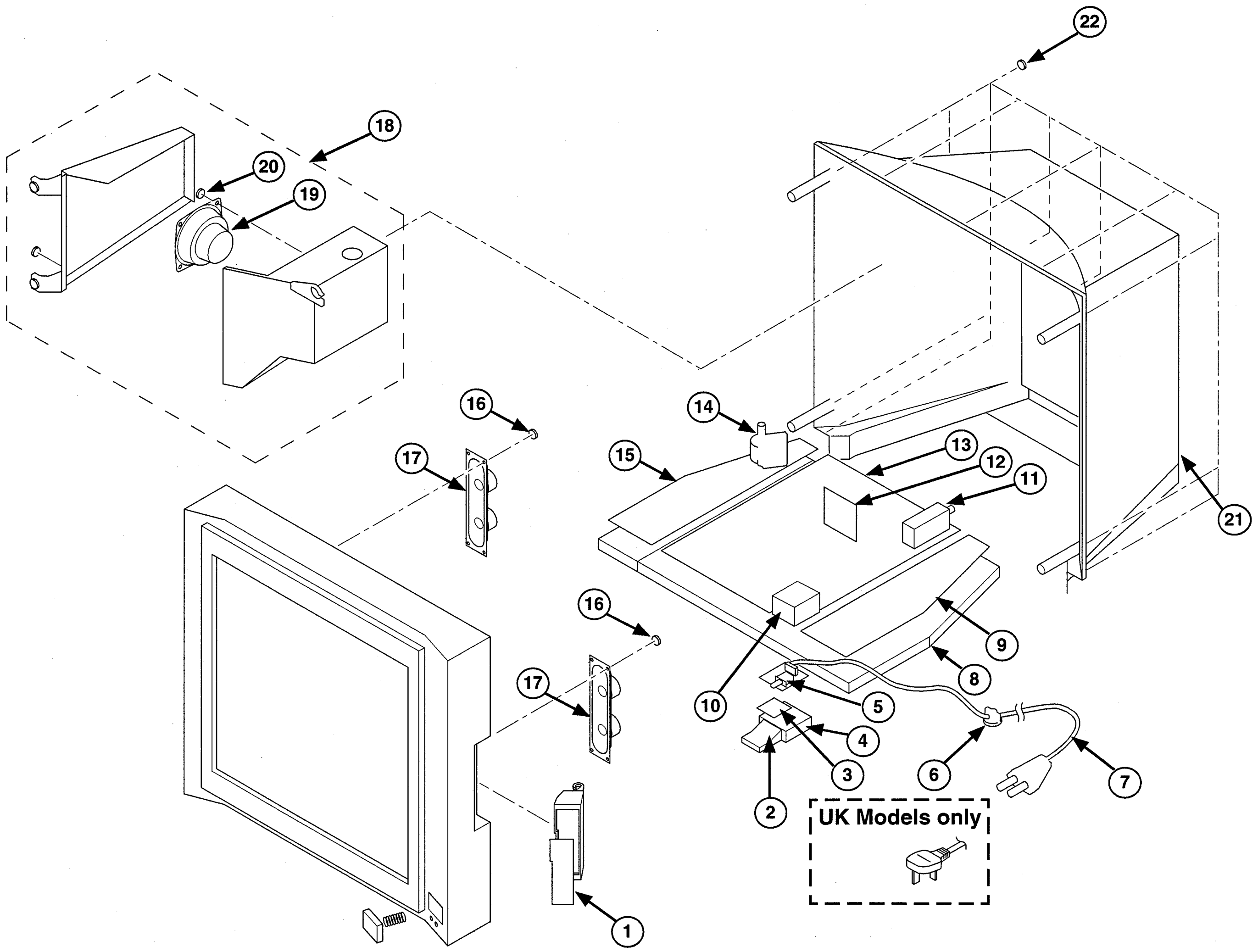
Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

6-1. CHASSIS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UK Models only
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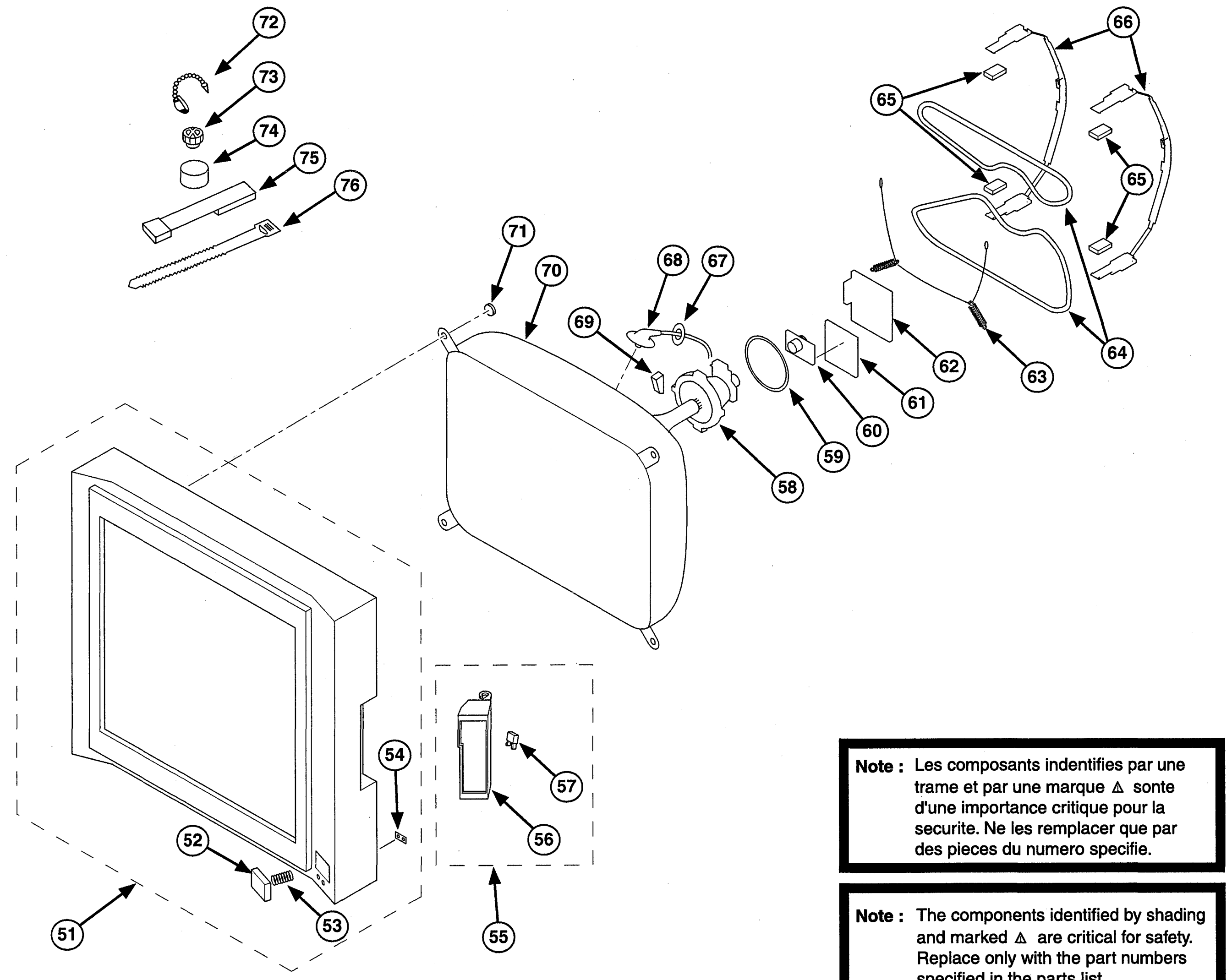
REF.NO.	PART.NO	DESCRIPTION	REMARK
1	*A-1647-043-A	H2 BOARD, COMPLETE	
2	*A-1646-243-A	H1 BOARD, COMPLETE	
3	*A-1625-000-A	F4 BOARD, COMPLETE	
4	*4-206-097-01	F4, H1 BRACKET	
5 £	1-571-433-21	SWITCH, PUSH (AC POWER)	
6	*4-202-531-01	AC CORD LOCK (SC)	
7 £	1-783-083-11	CORD, POWER (WITH FILTER) (KV-28FX68B/28FX68E)	
£	1-776-860-11	POWER CORD, FILTER (UK) (KV-28FX68U)	
8	*4-206-106-05	BRACKET, MAIN	
9	*A-1300-179-A	G BOARD, COMPLETE	
10	1-424-855-11	COIL, CHOKE 29MMH	
11	8-598-535-20	FRONTEND BTF-EF411(KV-28FX68B)	
	8-598-533-10	FRONTEND BTF-EC411(KV-28FX68E)	
	8-598-529-10	FRONTEND BTF-EU611(KV-28FX68U)	
12	*A-1300-287-A	M BOARD, COMPLETE	
13	*A-1300-302-A	A BOARD, COMPLETE (KV-28FX68B)	
	*A-1300-175-A	A BOARD, COMPLETE (KV-28FX68E)	
	*A-1300-301-A	A BOARD, COMPLETE (KV-28FX68U)	
14 £	1-453-383-11	TRANSFORMER ASSY FLYBACK (NX-4522//Z214)	
15	*A-1300-176-A	D BOARD, COMPLETE	
16	4-039-358-01	SCREW (4X16), (+) BV TAPPING	
17	1-529-408-11	SPEAKER (4.2X24CM)	
18	A-1678-192-E	WOOFER COMPLETE ASSY	19-20
19	1-529-417-11	SPEAKER (8CM)	
20	7-685-648-79	SCREW (3X12), TYPE2 IT-3	
21	*4-205-700-32	REAR COVER	
22	7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3	

6-2. PICTURE TUBE



Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK
51	*X-4041-374-1	BEZNET ASSY	52-54
52	4-205-699-04	POWER, BUTTON	
53	4-202-964-11	SPRING	
54	4-205-698-02	GUIDE LIGHT	
55	X-4040-352-2	SIDE DOOR ASSY	56-57
56	4-205-696-51	DOOR	
57	4-047-464-01	CATCHER, PUSH	
58 ⚠	8-451-521-31	DEFLECTION YOKE (Y28RVC3-L2)	
59	1-452-896-11	COIL, NA ROTATION (RT200)	
60	8-453-011-11	NECK ASSY NA299-M	
61	*A-1300-626-A	VM BOARD, COMPLETE	
62	*A-1300-532-A	C BOARD, COMPLETE	
63	4-205-743-01	SPRING, EXTENSION	
64 ⚠	1-424-886-11	COIL, DEGAUSSING	
65	*4-203-390-71	CUSHION, DGC	
66	*4-057-303-01	HOLDER, DGC	
67	4-202-693-01	HOLDER, HV CABLE	
68 ⚠	1-251-317-63	CAP ASSY, HIGH VOLTAGE	
69	4-203-658-01	SPACER, DY	
70 ⚠	8-735-099-05	PICTURE TUBE (W66LLX060X)	
71	4-036-188-01	SCREW, SELF TAPPING	
72	4-308-870-00	CLIP, LEAD WIRE	
73	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
74	1-425-032-00	MAGNET, DISK; 10MM Ø	
75	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
76	3-701-007-00	BAND BINDING	

SECTION 7
ELECTRICAL PARTS LIST

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Note : Refer to the designated variant parts list when seeking a part indicated by an asterisk (*)
Parts indicated (XX) on the Schematic Diagram are not used in this model and therefore do not appear in the Parts List.

* A-1300-176-A D Board, Complete

REF.NO.	PART.NO	DESCRIPTION	REMARK
	4-382-854-01	SCREW (M3X8), P, SW (+)	
		< CAPACITOR >	
C8100	1-136-165-00	FILM 0.1UF	5.00% 50V
C8101	1-136-165-00	FILM 0.1UF	5.00% 50V
C8102	1-136-165-00	FILM 0.1UF	5.00% 50V
C8103	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8104	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8105	1-126-947-11	ELECT 47UF	20.00% 35V
C8106	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C8108	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C8109	1-126-947-11	ELECT 47UF	20.00% 35V
C8112	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C8113	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C8114	1-126-964-11	ELECT 10UF	20.00% 50V
C8115	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C8116	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8117	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8118	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C8119	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C8120	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C8124	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C8125	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C8126	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C8128	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C8130	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C8131	1-126-964-11	ELECT 10UF	20.00% 50V
C8132	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C8134	1-102-935-00	CERAMIC 2PF	0.25PF 50V
C8135	1-126-964-11	ELECT 10UF	20.00% 50V
C8136	1-126-964-11	ELECT 10UF	20.00% 50V
C8140	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8141	1-136-165-00	FILM 0.1UF	5.00% 50V
C8209	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C8210	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8801	1-126-947-11	ELECT 47UF	20.00% 35V
C8802	1-126-960-11	ELECT 1UF	20.00% 50V
C8803	1-126-960-11	ELECT 1UF	20.00% 50V
C8804	1-102-114-00	CERAMIC 470PF	10.00% 50V
C8805	1-102-114-00	CERAMIC 470PF	10.00% 50V
C8808	1-102-030-00	CERAMIC 330PF	10.00% 500V
C8809	1-102-030-00	CERAMIC 330PF	10.00% 500V
C8810	1-107-368-11	MYLAR 0.047UF	10.00% 200V
C8811	1-107-368-11	MYLAR 0.047UF	10.00% 200V
C8812	1-162-131-11	CERAMIC 220PF	10.00% 2KV
C8813	1-162-134-11	CERAMIC 470PF	10.00% 2KV
C8814	1-117-641-11	FILM 7500PF	3.00% 1.2KV
C8815	1-117-836-11	FILM 6800PF	3.00% 1.5KV
C8816	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8817	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8818	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8819	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8820	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8824	1-107-846-11	FILM 0.1UF	5.00% 400V
C8825	1-117-663-11	FILM 0.22UF	5.00% 250V
C8826	1-115-520-11	FILM 0.68UF	5.00% 250V
C8827	1-107-846-11	FILM 0.1UF	5.00% 400V
C8828	1-127-681-11	FILM 10000PF	2% 100V
C8829	1-127-680-11	FILM 4700PF	2% 100V
C8830	1-107-655-11	ELECT 47UF	20.00% 250V
C8831	1-102-228-00	CERAMIC 470PF	10.00% 500V
C8832	1-126-941-11	ELECT 470UF	20.00% 25V
C8833	1-126-941-11	ELECT 470UF	20.00% 25V
C8834	1-102-228-00	CERAMIC 470PF	10.00% 500V
C8835	1-102-228-00	CERAMIC 470PF	10.00% 500V
C8836	1-123-024-21	ELECT 33UF	160V
C8837	1-106-375-12	MYLAR 0.022UF	5.00% 200V
C8840	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C8841	1-126-947-11	ELECT 47UF	20.00% 35V
C8844	1-115-513-21	FILM 0.18UF	5.00% 250V
C8851	1-162-131-11	CERAMIC 220PF	10.00% 2KV
C8852	1-162-129-00	CERAMIC 150PF	10.00% 2KV
C8853	1-129-898-00	FILM 0.0022UF	5.00% 630V
C8855	1-136-205-11	MYLAR 0.022UF	5.00% 630V
C8856	1-102-030-00	CERAMIC 330PF	10.00% 500V
C8860	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8861	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C8869	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
		< CONNECTOR >	
CN8600	* 1-817-037-61	PLUG, CONNECTOR 6P	
CN8601	* 1-816-980-71	PLUG, CONNECTOR 3P	
CN8611	* 1-785-270-12	PIN, DY CONNECTOR (PC BOARD)	
CN8612	* 1-816-979-51	PLUG, CONNECTOR 8P	
CN8614	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN8616	1-695-915-11	TAB (CONTACT)	
CN8620	1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P	
CN8810	* 1-564-510-11	PLUG, CONNECTOR 7P	
		< DIODE >	
D8102	8-719-081-97	DIODE MMDL914T1	
D8103	8-719-081-97	DIODE MMDL914T1	
D8104	8-719-081-97	DIODE MMDL914T1	
D8105	8-719-081-97	DIODE MMDL914T1	
D8107	8-719-081-97	DIODE MMDL914T1	
D8108	8-719-921-40	DIODE MTZJ-4.7C	
D8128	8-719-081-97	DIODE MMDL914T1	
D8129	8-719-081-97	DIODE MMDL914T1	
D8132	8-719-081-97	DIODE MMDL914T1	
D8133	8-719-081-97	DIODE MMDL914T1	
D8198	1-535-303-00	LEAD, JUMPER (5.0MM)	
D8199	8-719-081-97	DIODE MMDL914T1	
D8611	8-719-081-97	DIODE MMDL914T1	
D8612	8-719-081-97	DIODE MMDL914T1	
D8803	8-719-200-02	DIODE 10E-2	
D8805	8-719-302-43	DIODE EL1Z	
D8806	8-719-979-85	DIODE EGP20G	
D8807	8-719-510-73	DIODE S3L20UF4	
D8808	8-719-510-73	DIODE S3L20UF4	
D8811	8-719-110-41	DIODE RD15ESB2	
D8818	8-719-109-89	DIODE RD5.6ESB2	
D8819	8-719-050-38	DIODE M1MA152WK-T1	
D8820	8-719-081-97	DIODE MMDL914T1	
D8851	8-719-970-87	DIODE ERA38-06	
D8856	8-719-081-97	DIODE MMDL914T1	
D8857	8-719-110-41	DIODE RD15ESB2	
D8858	8-719-081-97	DIODE MMDL914T1	
D8860	8-719-110-41	DIODE RD15ESB2	
		< FERRITE BEAD >	
FB8806	1-410-397-21	FERRITE 1.1UH	
FB8807	1-410-397-21	FERRITE 1.1UH	
		< IC >	
IC8100	8-759-659-67	IC LA6393DLL	
IC8101	8-759-659-67	IC LA6393DLL	
IC8102	8-759-638-79	IC NJM3404AD-W	
IC8103	8-759-659-67	IC LA6393DLL	
		< COIL >	
L8801	1-410-397-21	FERRITE 1.1UH	
L8802	1-410-397-21	FERRITE 1.1UH	
L8803	1-410-397-21	FERRITE 1.1UH	
L8805	1-408-947-00	INDUCTOR 2.2MH	
L8851	1-535-303-00	LEAD, JUMPER (5.0MM)	
		< INDUCTOR >	
LF8801	1-406-985-11	INDUCTOR 2.2MH	
LF8851	1-406-674-11	INDUCTOR 3.3MH	
		< TRANSISTOR >	
Q8100	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8101	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8102	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8103	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8104	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8105	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8106	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8107	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8108	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8110	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8112	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8113	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8115	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8118	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8119	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8120	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8122	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8123	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8125	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8126	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8127	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8128	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8132	8-729-421-19	TRANSISTOR UN2213	
Q8135	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8136	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8137	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8201	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8202	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8203	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8455	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8801	8-729-048-47	TRANSISTOR 2SC2688(5)-LK	
Q8802	8-729-048-47	TRANSISTOR 2SC2688(5)-LK	
Q8803	8-729-056-16	TRANSISTOR 2SC5698-SONY-CA	
Q8804	8-729-056-17	TRANSISTOR 2SC5696-SONY-CA	
Q8805	8-729-050-48	TRANSISTOR IRF614-005	
Q8806	8-729-047-59	TRANSISTOR STP5NB40FP	
Q8807	8-729-421-19	TRANSISTOR UN2213	
Q8822	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8823	8-729-424-08	TRANSISTOR UN2111	
Q8851	6-550-012-01	TRANSISTOR STP5NB40(033Y)	
		< RESISTOR >	
R8100	1-216-813-11	METAL CHIP 220	5% 1/10W
R8101	1-216-813-11	METAL CHIP 220	5% 1/10W
R8102	1-216-825-11	METAL CHIP 2.2K	5% 1/10W
R8103	1-216-825-11	METAL CHIP 2.2K	5% 1/10W
R8104	1-216-825-11	METAL CHIP 2.2K	5% 1/10W
R8105	1-216-821-11	METAL CHIP 1K	5% 1/10W
R8106	1-216-825-11	METAL CHIP 2.2K	5% 1/10W
R8107	1-208-792-11	METAL CHIP 2.7K	0.5% 1/10W
R8108	1-208-792-11	METAL CHIP 2.7K	0.5% 1/10W
R8109	1-208-814-91	METAL CHIP 22K	0.5% 1/10W
R8110	1-208-814-91	METAL CHIP 22K	0.5% 1/10W
R8111	1-216-825-11	METAL CHIP 2.2K	5% 1/10W
R8112	1-216-825-11	METAL CHIP 2.2K	5% 1/10W
R8113	1-216-833-11	METAL CHIP 10K	5% 1/10W
R8114	1-216-833-11	METAL CHIP 10K	5% 1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8115	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8116	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8117	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8118	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8119	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8120	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8121	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8122	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8123	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8124	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8125	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8126	1-216-815-11	METAL CHIP	330	5%	1/10W
R8127	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8128	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8129	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8130	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R8131	1-216-815-11	METAL CHIP	330	5%	1/10W
R8132	1-216-815-11	METAL CHIP	330	5%	1/10W
R8133	1-216-815-11	METAL CHIP	330	5%	1/10W
R8136	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8137	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8138	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8139	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8140	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8141	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8142	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
R8143	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8144	1-216-849-11	METAL CHIP	220K	5%	1/10W
R8145	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8146	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R8149	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8150	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8153	1-216-295-91	SHORT CHIP	0		
R8154	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R8155	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8158	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R8159	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R8160	1-216-295-91	SHORT CHIP	0		
R8161	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R8162	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8163	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8164	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8165	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R8168	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8169	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R8170	1-216-815-11	METAL CHIP	330	5%	1/10W
R8171	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8174	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8175	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8176	1-216-864-11	SHORT CHIP	0		

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8177	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R8179	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8180	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8181	1-216-295-91	SHORT CHIP	0		
R8182	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8183	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8186	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R8188	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8189	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R8190	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8191	1-215-925-11	METAL OXIDE	22K	5%	3W
R8196	1-249-377-11	CARBON	0.47	5%	1/4W
R8197	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8203	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R8204	1-216-295-91	SHORT CHIP	0		
R8205	1-216-295-91	SHORT CHIP	0		
R8206	1-216-853-11	METAL CHIP	470K	5%	1/10W
R8207	1-216-850-11	METAL CHIP	270K	5%	1/10W
R8209	1-216-295-91	SHORT CHIP	0		
R8210	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8211	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8212	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8215	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8216	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8217	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8219	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8220	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R8221	1-216-836-11	METAL CHIP	18K	5%	1/10W
R8456	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8457	1-216-834-11	METAL CHIP	12K	5%	1/10W
R8458	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8459	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8800	1-247-895-91	CARBON	470K	5%	1/4W
R8804	1-249-408-11	CARBON	180	5%	1/4W
R8805	1-249-408-11	CARBON	180	5%	1/4W
R8806	1-249-411-11	CARBON	330	5%	1/4W
R8807	1-249-411-11	CARBON	330	5%	1/4W
R8808	1-260-340-11	CARBON	10K	5%	1/2W
R8809	1-260-340-11	CARBON	10K	5%	1/2W
R8810	1-215-896-00	METAL OXIDE	4.7K	5%	2W
R8811	1-215-896-00	METAL OXIDE	4.7K	5%	2W
R8812	1-215-896-00	METAL OXIDE	4.7K	5%	2W
R8813	1-215-895-11	METAL OXIDE	3.3K	5%	2W
R8814	1-215-880-00	METAL OXIDE	10	5%	2W
R8815	1-215-880-00	METAL OXIDE	10	5%	2W
R8816	1-216-365-00	METAL OXIDE	0.47	5%	2W
R8817	1-216-361-00	METAL OXIDE	0.22	5%	2W
R8818	1-249-405-11	CARBON	100	5%	1/4W
R8819	1-247-807-31	CARBON	100	5%	1/4W
R8831	1-260-124-11	CARBON	120K	5%	1/2W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8833	1-202-972-61	FUSIBLE	1	5%	1/4W
R8834	1-260-288-11	CARBON	0.47	5%	1/2W
R8835	1-260-288-11	CARBON	0.47	5%	1/2W
R8836	1-249-432-11	CARBON	18K	5%	1/4W
R8837	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R8838	1-214-905-11	METAL	47K	1%	1/2W
R8839	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R8840	1-247-843-11	CARBON	3.3K	5%	1/4W
R8842	1-260-123-11	CARBON	100K	5%	1/2W
R8843	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8844	1-216-838-11	METAL CHIP	27K	5%	1/10W
R8845	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8851	1-260-123-11	CARBON	100K	5%	1/2W
R8852	1-260-123-11	CARBON	100K	5%	1/2W
R8853	1-260-123-11	CARBON	100K	5%	1/2W
R8854	1-249-425-11	CARBON	4.7K	5%	1/4W
R8856	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8857	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8858	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8859	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8865	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8866	1-216-295-91	SHORT CHIP	0		
R8867	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8869	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8870	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8885	1-208-854-11	METAL CHIP	1M	0.5%	1/10W
R8886	1-208-836-11	METAL CHIP	180K	0.5%	1/10W
R8887	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8888	1-249-441-11	CARBON	100K	5%	1/4W
R8895	1-249-443-11	CARBON	0.47	5%	1/4W
R8896	1-249-443-11	CARBON	0.47	5%	1/4W
R8897	1-215-485-00	METAL	470K	1%	1/4W
R8898	1-215-493-00	METAL	1M	1%	1/4W
R8899	1-215-493-00	METAL	1M	1%	1/4W

< TRANSFORMER >

T8800 ⚠	1-453-383-11	TRANSFORMER ASSY FLYBACK NX-4522//Z214
T8801	1-437-430-11	TRANSFORMER, FERRITE (HDT)
T8802	1-437-430-11	TRANSFORMER, FERRITE (HDT)
T8852	1-437-690-11	TRANSFORMER, FERRITE (DFT)

* A-1300-179-A G Board, Complete

	4-382-854-01	SCREW (M3X8), P, SW (+)
	4-382-854-01	SCREW (M3X8), P, SW (+)

< CAPACITOR >

C6001 ⚠	1-137-999-11	FILM	0.1UF		275V
C6002 ⚠	1-137-999-11	FILM	0.1UF		275V
C6003 ⚠	1-119-899-51	CERAMIC	1000PF	10.00%	250V
C6004 ⚠	1-119-899-51	CERAMIC	1000PF	10.00%	250V

REF.NO.	PART.NO	DESCRIPTION		REMARK	
C6005	1-126-965-91	ELECT	22UF	20.00%	50V
C6006	1-117-753-11	ELECT(BLOCK)	470UF	20.00%	450V
C6007	1-126-964-11	ELECT	10UF	20.00%	50V
C6008	1-126-963-11	ELECT	4.7UF	20.00%	50V
C6010	1-136-165-00	FILM	0.1UF	5.00%	50V
C6011	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6012 ⚠	1-104-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6013 ⚠	1-104-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6015	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6016 ⚠	1-104-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6017 ⚠	1-104-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6018	1-126-949-11	ELECT	220UF	20.00%	35V
C6020	1-135-946-22	FILM	47000PF	3%	800V
C6021	1-164-645-11	CERAMIC	1000PF	10.00%	500V
C6022	1-126-963-11	ELECT	4.7UF	20.00%	50V
C6023	1-110-626-11	ELECT	330UF	20.00%	160V
C6024	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6025	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6026	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6027	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6028	1-128-548-11	ELECT	4700UF	20.00%	25V
C6029	1-126-939-11	ELECT	10000UF	20.00%	16V
C6030	1-119-940-51	ELECT	4700UF	20.00%	50V
C6031	1-535-143-71	LEAD,JUMPER (7.5MM)			
C6032 ⚠	1-113-927-11	CERAMIC	0.01UF		250V
C6033	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6034	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C6035	1-136-165-00	FILM	0.1UF	5.00%	50V
C6036	1-136-479-11	FILM	0.001UF	5.00%	100V
C6037	1-126-947-11	ELECT	47UF	20.00%	35V
C6038	1-164-645-11	CERAMIC	1000PF	10.00%	500V
C6039	1-125-891-11	CERAMIC CHIP	0.47UF	10.00%	10V
C6040	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C6045	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6102	1-126-943-11	ELECT	2200UF	20.00%	25V
C6103	1-126-971-11	ELECT	470UF	20.00%	50V
C6105	1-126-964-11	ELECT	10UF	20.00%	50V
C6106	1-126-964-11	ELECT	10UF	20.00%	50V

< CONNECTOR >

CN6001 ⚠*	1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P
CN6002 ⚠*	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
CN6003 ⚠*	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
CN6004 ⚠*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P
CN6005 *	1-817-037-61	PLUG, CONNECTOR 6P
CN6006 *	1-564-516-11	PLUG, CONNECTOR 13P
CN6008 *	1-564-507-11	PLUG, CONNECTOR 4P

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< DIODE >	
D6001	6-500-067-01	DIODE GSIB460L/45	
D6002	8-719-982-26	DIODE MTZJ-33B	
D6004	8-719-979-64	DIODE UF4005PKG23	
D6006	8-719-081-97	DIODE MMDL914T1	
D6007	8-719-081-97	DIODE MMDL914T1	
D6008	8-719-063-70	DIODE D1NL20U	
D6009	8-719-110-41	DIODE RD15ESB2	
D6010	8-719-085-24	DIODE FBIU4D7M1-B	
D6016	8-719-060-88	DIODE D4SBS6	
D6031	8-719-080-59	DIODE EK19-V0	
D6032	8-719-080-59	DIODE EK19-V0	
D6033	8-719-022-97	DIODE D2S4MF	
D6034	8-719-022-97	DIODE D2S4MF	
D6035	1-535-303-00	LEAD JUMPER (5.0MM)	
D6036	1-216-295-91	SHORT CHIP 0	
D6101	8-719-081-97	DIODE MMDL914T1	
D6102	8-719-511-40	DIODE S1VB40	
D6103	8-719-081-97	DIODE MMDL914T1	
D6104	8-719-081-97	DIODE MMDL914T1	
D6105	8-719-081-97	DIODE MMDL914T1	
D6106	8-719-081-97	DIODE MMDL914T1	
D6107	8-719-081-97	DIODE MMDL914T1	
		< FERRITE BEAD >	
FB6002	1-410-397-21	FERRITE 1.1UH	
FB6003	1-410-397-21	FERRITE 1.1UH	
FB6005	1-535-303-00	LEAD, JUMPER (5.0MM)	
FB6006	1-535-303-00	LEAD, JUMPER (5.0MM)	
		< IC >	
IC6001	8-759-670-30	IC MCZ3001D	
IC6003	8-749-016-19	IC SE135N-LF4	
		< COIL >	
L6001	1-406-663-21	INDUCTOR 47UH	
L6002	1-412-529-11	INDUCTOR 22UH	
L6003	1-412-529-11	INDUCTOR 22UH	
L6004	1-535-303-00	LEAD, JUMPER (5.0MM)	
L6005	1-535-303-00	LEAD, JUMPER (5.0MM)	
L6006	1-406-659-11	INDUCTOR 10UH	
L6007	1-412-525-31	INDUCTOR 10UH	
		< PHOTOCOUPLER >	
PH6001 ⚠	8-749-016-21	IC TCET1103G	
		< TRANSISTOR >	
Q6003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q6005	8-729-029-56	TRANSISTOR DTA144ESA	
Q6006	6-550-146-01	TRANSISTOR SPA07N60C2-E8152	
Q6007	6-550-146-01	TRANSISTOR SPA07N60C2-E8152	
Q6010	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6101	8-729-029-56	TRANSISTOR DTA144ESA	
Q6102	8-729-010-29	TRANSISTOR MSD601-RST1	
Q6103	8-729-029-56	TRANSISTOR DTA144ESA	
Q6104	8-729-010-29	TRANSISTOR MSD601-RST1	
Q6105	8-729-010-29	TRANSISTOR MSD601-RST1	
		< RESISTOR >	
JR6004	1-216-295-91	SHORT CHIP 0	
R6003 ⚠	1-202-933-61	FUSIBLE 0.1 10% 1/2W	
R6004 ⚠	1-205-998-11	CEMENTED 1 5% 10W	
R6005 ⚠	1-205-998-11	CEMENTED 1 5% 10W	
R6006 ⚠	1-205-998-11	CEMENTED 1 5% 10W	
R6007	1-243-979-21	METAL OXIDE 0.1 5% 2W	
R6008	1-243-979-21	METAL OXIDE 0.1 5% 2W	
R6009	1-216-687-11	METAL CHIP 33K 0.5% 1/10W	
R6010	1-215-481-00	METAL 330K 1% 1/4W	
R6013 ⚠	1-218-265-11	METAL 8.2M 5% 1W	
R6014	1-215-926-00	METAL OXIDE 33K 5% 3W	
R6015	1-208-757-11	METAL CHIP 91 0.5% 1/10W	
R6016	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R6017	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R6018	1-260-131-11	CARBON 470K 5% 1/2W	
R6019	1-260-129-11	CARBON 330K 5% 1/2W	
R6020	1-216-820-11	METAL CHIP 820 5% 1/10W	
R6021	1-216-362-11	METAL OXIDE 0.27 5% 2W	
R6022	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R6024	1-216-615-11	METAL CHIP 33 0.5% 1/10W	
R6029	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R6030	1-216-817-11	METAL CHIP 470 5% 1/10W	
R6032	1-249-417-11	CARBON 1K 5% 1/4W	
R6033	1-215-481-00	METAL 330K 1% 1/4W	
R6034	1-249-389-11	CARBON 4.7 5% 1/4W	
R6035	1-260-083-11	CARBON 47 5% 1/2W	
R6036	1-216-817-11	METAL CHIP 470 5% 1/10W	
R6037	1-249-405-11	CARBON 100 5% 1/4W	
R6038	1-208-830-11	METAL CHIP 100K 0.5% 1/10W	
R6039	1-208-830-11	METAL CHIP 100K 0.5% 1/10W	
R6040	1-208-814-91	METAL CHIP 22K 0.5% 1/10W	
R6042	1-216-295-91	SHORT CHIP 0	
R6045	1-216-639-11	METAL CHIP 330 0.5% 1/10W	
R6047	1-216-681-11	METAL CHIP 18K 0.5% 1/10W	
R6048	1-215-481-00	METAL 330K 1% 1/4W	
R6049	1-208-805-11	METAL CHIP 9.1K 0.5% 1/10W	
R6050	1-208-758-11	METAL CHIP 100 0.5% 1/10W	
R6054	1-216-615-11	METAL CHIP 33 0.5% 1/10W	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK
R6056	1-216-295-91	SHORT CHIP 0	
R6057	1-208-798-11	METAL CHIP 4.7K 0.5% 1/10W	
R6101	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R6102	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R6103	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R6104	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R6105	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R6106	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R6107	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R6108	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R6109	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R6110	1-216-821-11	METAL CHIP 1K 5% 1/10W	
		< RELAY >	
RY6001 ⚠	1-755-395-11	RELAY (AC POWER)	
RY6002 ⚠	1-755-389-11	RELAY (AC POWER)	
		< TRANSFORMER >	
T6002 ⚠	1-437-443-11	TRANSFORMER, CONVERTER (PIT)	
T6003 ⚠	1-424-896-11	TRANSFORMER, LINE FILTER	
T6101 ⚠	1-437-483-11	TRANSFORMER, STANDBY	
		< THERMISTOR >	
TH6002 ⚠	1-804-650-11	THERMISTOR, POSITIVE	

* A-1300-287-A M Board, Complete

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< CAPACITOR >	
C0001	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C0002	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C0004	1-165-128-11	CERAMIC CHIP 0.22UF 16V	
C0006	1-126-947-11	ELECT 47UF 20.00% 35V	
C0007	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C0008	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C0009	1-165-128-11	CERAMIC CHIP 0.22UF 16V	
C0010	1-162-927-11	CERAMIC CHIP 100PF 5.00% 50V	
C0011	1-165-128-11	CERAMIC CHIP 0.22UF 16V	
C0012	1-162-924-11	CERAMIC CHIP 56PF 5.00% 50V	
C0013	1-165-128-11	CERAMIC CHIP 0.22UF 16V	
C0015	1-135-834-91	CERAMIC CHIP 2.2E+06PF 6.3V	
C0016	1-165-128-11	CERAMIC CHIP 0.22UF 16V	
C0017	1-162-924-11	CERAMIC CHIP 56PF 5.00% 50V	
C0019	1-165-128-11	CERAMIC CHIP 0.22UF 16V	
C0020	1-162-923-11	CERAMIC CHIP 47PF 5.00% 50V	
C0025	1-162-962-11	CERAMIC CHIP 470PF 10.00% 50V	
C0026	1-162-962-11	CERAMIC CHIP 470PF 10.00% 50V	
C0027	1-162-962-11	CERAMIC CHIP 470PF 10.00% 50V	
C0028	1-126-947-11	ELECT 47UF 20.00% 35V	
		< CONNECTOR >	
CN0001	* 1-793-497-11	CONNECTOR, BOARD TO BOARD 40P	
		< DIODE >	
D0001	6-500-079-01	DIODE BAS40-05E6327	
D0301	8-719-069-56	DIODE UDZSTE-176.2B	
		< FERRITE BEAD >	
FB0003	1-216-295-91	SHORT CHIP 0	
FB0004	1-412-006-31	INDUCTOR 10UH	
FB0005	1-216-864-11	SHORT CHIP 0	
FB0006	1-216-864-11	SHORT CHIP 0	
FB0007	1-216-295-91	SHORT CHIP 0	
FB0008	1-216-295-91	SHORT CHIP 0	
FB0009	1-412-006-31	INDUCTOR 10UH	
FB0010	1-216-295-91	SHORT CHIP 0	
FB0011	1-412-006-31	INDUCTOR 10UH	
FB0012	1-216-295-91	SHORT CHIP 0	
FB0015	1-216-864-11	SHORT CHIP 0	
FB0016	1-216-864-11	SHORT CHIP 0	
FB0017	1-216-295-91	SHORT CHIP 0	
FB0018	1-216-295-91	SHORT CHIP 0	
FB0019	1-216-295-91	SHORT CHIP 0	
FB0020	1-216-295-91	SHORT CHIP 0	
		< IC >	
IC0001	8-759-699-33	IC M24C16-MN6T(A)	
IC0002	6-702-496-02	IC SAA5667HL/M1/1036	
IC0003	8-759-672-39	IC PST573IMT	
IC0004	8-759-665-11	IC LM393DT	
IC0005	6-702-395-01	IC K6F2008V2E-YF70T	
		< TRANSISTOR >	
Q0002	8-729-424-08	TRANSISTOR UN2111	
Q0003	8-729-424-08	TRANSISTOR UN2111	
Q0006	8-729-010-29	TRANSISTOR MSD601-RST1	
Q0007	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0008	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0009	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0010	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0011	8-729-010-29	TRANSISTOR MSD601-RST1	
Q0012	8-729-424-08	TRANSISTOR UN2111	
Q0013	8-729-421-22	TRANSISTOR UN2211	
		< RESISTOR >	
R0001	1-216-045-00	RES-CHIP 680 5% 1/10W	
R0002	1-216-055-00	RES-CHIP 1.8K 5% 1/10W	
R0003	1-216-025-11	RES-CHIP 100 5% 1/10W	
R0011	1-216-025-11	RES-CHIP 100 5% 1/10W	

REF.NO.	PART.NO	DESCRIPTION	REMARK
R0014	1-216-081-00	RES-CHIP 22K	5% 1/10W
R0016	1-216-025-11	RES-CHIP 100	5% 1/10W
R0017	1-216-093-91	RES-CHIP 68K	5% 1/10W
R0018	1-216-025-11	RES-CHIP 100	5% 1/10W
R0019	1-216-073-91	RES-CHIP 10K	5% 1/10W
R0020	1-216-049-11	RES-CHIP 1K	5% 1/10W
R0022	1-216-809-11	METAL CHIP 100	5% 1/10W
R0023	1-216-097-11	RES-CHIP 100K	5% 1/10W
R0027	1-216-821-11	METAL CHIP 1K	5% 1/10W
R0028	1-216-833-11	METAL CHIP 10K	5% 1/10W
R0029	1-216-025-11	RES-CHIP 100	5% 1/10W
R0030	1-216-025-11	RES-CHIP 100	5% 1/10W
R0032	1-216-809-11	METAL CHIP 100	5% 1/10W
R0033	1-216-809-11	METAL CHIP 100	5% 1/10W
R0034	1-218-725-11	METAL CHIP 24K	0.5% 1/10W
R0035	1-216-069-00	RES-CHIP 6.8K	5% 1/10W
R0037	1-216-061-91	RES-CHIP 3.3K	5% 1/10W
R0039	1-216-809-11	METAL CHIP 100	5% 1/10W
R0040	1-216-809-11	METAL CHIP 100	5% 1/10W
R0041	1-216-057-00	RES-CHIP 2.2K	5% 1/10W
R0042	1-216-069-00	RES-CHIP 6.8K	5% 1/10W
R0043	1-216-803-11	METAL CHIP 33	5% 1/10W
R0044	1-216-025-11	RES-CHIP 100	5% 1/10W
R0045	1-216-803-11	METAL CHIP 33	5% 1/10W
R0046	1-216-803-11	METAL CHIP 33	5% 1/10W
R0047	1-216-810-11	METAL CHIP 120	5% 1/10W
R0048	1-216-809-11	METAL CHIP 100	5% 1/10W
R0049	1-216-073-91	RES-CHIP 10K	5% 1/10W
R0050	1-216-810-11	METAL CHIP 120	5% 1/10W
R0051	1-216-835-11	METAL CHIP 15K	5% 1/10W
R0052	1-216-810-11	METAL CHIP 120	5% 1/10W
R0053	1-216-809-11	METAL CHIP 100	5% 1/10W
R0054	1-216-809-11	METAL CHIP 100	5% 1/10W
R0055	1-216-809-11	METAL CHIP 100	5% 1/10W
R0056	1-216-833-11	METAL CHIP 10K	5% 1/10W
R0057	1-216-809-11	METAL CHIP 100	5% 1/10W
R0058	1-216-823-11	METAL CHIP 1.5K	5% 1/10W
R0059	1-216-841-11	METAL CHIP 47K	5% 1/10W
R0060	1-216-833-11	METAL CHIP 10K	5% 1/10W
R0061	1-216-833-11	METAL CHIP 10K	5% 1/10W
R0062	1-216-833-11	METAL CHIP 10K	5% 1/10W
R0063	1-216-073-91	RES-CHIP 10K	5% 1/10W
R0065	1-216-073-91	RES-CHIP 10K	5% 1/10W
R0066	1-218-871-11	METAL CHIP 10K	0.5% 1/10W
R0067	1-216-833-11	METAL CHIP 10K	5% 1/10W
R0068	1-216-833-11	METAL CHIP 10K	5% 1/10W
R0069	1-216-073-91	RES-CHIP 10K	5% 1/10W
R0070	1-216-025-11	RES-CHIP 100	5% 1/10W
R0071	1-216-809-11	METAL CHIP 100	5% 1/10W
R0072	1-216-809-11	METAL CHIP 100	5% 1/10W
R0073	1-216-809-11	METAL CHIP 100	5% 1/10W
R0074	1-216-809-11	METAL CHIP 100	5% 1/10W
R0075	1-216-025-11	RES-CHIP 100	5% 1/10W
R0076	1-216-049-11	RES-CHIP 1K	5% 1/10W
R0078	1-216-817-11	METAL CHIP 470	5% 1/10W
R0079	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R0301	1-216-073-91	RES-CHIP 10K	5% 1/10W
R0302	1-216-073-91	RES-CHIP 10K	5% 1/10W
R0303	1-216-836-11	METAL CHIP 18K	5% 1/10W
R0304	1-218-867-11	METAL CHIP 6.8K	0.5% 1/10W

< CRYSTAL >

REF.NO.	PART.NO	DESCRIPTION	REMARK
X0001	1-578-774-71	VIBRATOR, CRYSTAL	

*** A-1300-302-A A Board, Complete (KV-28FX68B)**
*** A-1300-175-A A Board, Complete (KV-28FX68E)**
*** A-1300-301-A A Board, Complete (KV-28FX68U)**

A Board, Common Parts

4-382-854-01 SCREW (M3X8), P, SW (+)

< CAPACITOR >

REF.NO.	PART.NO	DESCRIPTION	REMARK
C1001	1-126-933-11	ELECT 100UF	20.00% 16V
C1002	1-126-964-11	ELECT 10UF	20.00% 50V
C1004	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1006	1-126-933-11	ELECT 100UF	20.00% 16V
C1008	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1009	1-162-925-11	CERAMIC CHIP 68PF	5.00% 50V
C1010	1-162-925-11	CERAMIC CHIP 68PF	5.00% 50V
C1014	1-126-933-11	ELECT 100UF	20.00% 16V
C1015	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1018	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C1020	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1021	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C1022	1-216-295-91	SHORT CHIP 0	
C2000	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2001	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2006	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2007	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2008	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2009	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2010	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2011	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2012	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2013	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2014	1-164-346-11	CERAMIC CHIP 1UF	16V
C2015	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2016	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2018	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2019	1-164-346-11	CERAMIC CHIP 1UF	16V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C2021	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2022	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2023	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2024	1-164-346-11	CERAMIC CHIP 1UF	16V
C2026	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2027	1-126-947-11	ELECT 47UF	20.00% 35V
C2028	1-126-947-11	ELECT 47UF	20.00% 35V
C2029	1-164-346-11	CERAMIC CHIP 1UF	16V
C2031	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2034	1-164-346-11	CERAMIC CHIP 1UF	16V
C2035	1-164-346-11	CERAMIC CHIP 1UF	16V
C2038	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2039	1-162-906-11	CERAMIC CHIP 1.5PF	0.25PF 50V
C2040	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2041	1-162-906-11	CERAMIC CHIP 1.5PF	0.25PF 50V
C2042	1-216-864-11	SHORT CHIP 0	
C2043	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2044	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2046	1-162-923-11	CERAMIC CHIP 47PF	5.00% 50V
C2047	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C2048	1-126-947-11	ELECT 47UF	20.00% 35V
C2049	1-162-925-11	CERAMIC CHIP 68PF	5.00% 50V
C2050	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C2051	1-126-964-11	ELECT 10UF	20.00% 50V
C2052	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2053	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C2054	1-126-947-11	ELECT 47UF	20.00% 35V
C2055	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2057	1-126-964-11	ELECT 10UF	20.00% 50V
C2058	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2059	1-126-964-11	ELECT 10UF	20.00% 50V
C2060	1-126-947-11	ELECT 47UF	20.00% 35V
C2061	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2062	1-164-346-11	CERAMIC CHIP 1UF	16V
C2063	1-164-346-11	CERAMIC CHIP 1UF	16V
C2064	1-126-964-11	ELECT 10UF	20.00% 50V
C2065	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2066	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2069	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C2073	1-126-960-11	ELECT 1UF	20.00% 50V
C2074	1-126-960-11	ELECT 1UF	20.00% 50V
C2075	1-126-960-11	ELECT 1UF	20.00% 50V
C2077	1-126-960-11	ELECT 1UF	20.00% 50V
C2078	1-126-963-11	ELECT 4.7UF	20.00% 50V
C2079	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2080	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C2081	1-162-928-11	CERAMIC CHIP 120PF	5.00% 50V
C2082	1-216-864-11	SHORT CHIP 0	
C2083	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2084	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2085	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2086	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2087	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2088	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2089	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2090	1-126-947-11	ELECT 47UF	20.00% 35V
C2091	1-126-947-11	ELECT 47UF	20.00% 35V
C2092	1-126-947-11	ELECT 47UF	20.00% 35V
C2093	1-126-947-11	ELECT 47UF	20.00% 35V
C2094	1-126-947-11	ELECT 47UF	20.00% 35V
C2095	1-126-947-11	ELECT 47UF	20.00% 35V
C2096	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2500	1-126-952-11	ELECT 1000UF	20.00% 35V
C2502	1-104-666-11	ELECT 220UF	20.00% 25V
C2504	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C2505	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C2506	1-126-972-11	ELECT 1000UF	20.00% 50V
C2507	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C2508	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C2509	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C2510	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C2511	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2512	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2513	1-126-952-11	ELECT 1000UF	20.00% 35V
C2515	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C2516	1-126-953-11	ELECT 2200UF	20.00% 35V
C2517	1-126-960-11	ELECT 1UF	20.00% 50V
C2518	1-126-960-11	ELECT 1UF	20.00% 50V
C2519	1-126-959-11	ELECT 0.47UF	20.00% 50V
C2521	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C2523	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C3200	1-126-964-11	ELECT 10UF	20.00% 50V
C3202	1-126-964-11	ELECT 10UF	20.00% 50V
C3203	1-126-964-11	ELECT 10UF	20.00% 50V
C3206	1-126-964-11	ELECT 10UF	20.00% 50V
C3208	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
C3209	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
C3210	1-126-964-11	ELECT 10UF	20.00% 50V
C3211	1-126-964-11	ELECT 10UF	20.00% 50V
C3213	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3214	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3215	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3216	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3217	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3218	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3219	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3220	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3221	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3222	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3223	1-164-222-91	CERAMIC CHIP 0.22UF	25V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C3224	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3225	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3226	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3227	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3228	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3229	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3230	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3231	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3232	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3233	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3234	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3235	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3236	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3237	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3238	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3239	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3240	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3241	1-126-933-11	ELECT 100UF	20.00% 16V
C3242	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C3243	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3245	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C3250	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C3300	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C3309	1-126-964-11	ELECT 10UF	20.00% 50V
C3310	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C5103	1-126-960-11	ELECT 1UF	20.00% 50V
C5106	1-126-933-11	ELECT 100UF	20.00% 16V
C5109	1-126-964-11	ELECT 10UF	20.00% 50V
C5110	1-126-947-11	ELECT 47UF	20.00% 35V
C5111	1-126-964-11	ELECT 10UF	20.00% 50V
C5112	1-126-964-11	ELECT 10UF	20.00% 50V
C5114	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5115	1-126-964-11	ELECT 10UF	20.00% 50V
C5117	1-126-964-11	ELECT 10UF	20.00% 50V
C5118	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5119	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C5120	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5121	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5122	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5124	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5125	1-126-964-11	ELECT 10UF	20.00% 50V
C5300	1-126-933-11	ELECT 100UF	20.00% 16V
C5301	1-126-947-11	ELECT 47UF	20.00% 35V
C5302	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C5303	1-136-153-00	FILM 0.01UF	5.00% 50V
C5304	1-164-182-11	CERAMIC CHIP 0.0033UF	10.00% 50V
C5305	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5306	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5307	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5309	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C5310	1-136-165-00	FILM 0.1UF	5.00% 50V
C5311	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5312	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5313	1-107-714-11	ELECT 10UF	20.00% 50V
C5314	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5316	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C5318	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5319	1-136-347-11	FILM 0.0047UF	5.00% 630V
C5320	1-129-716-00	FILM 0.015UF	5.00% 630V
C5321	1-136-347-11	FILM 0.0047UF	5.00% 630V
C5322	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5323	1-136-159-00	FILM 0.033UF	5.00% 50V
C5400	1-126-964-11	ELECT 10UF	20.00% 50V
C5401	1-107-714-11	ELECT 10UF	20.00% 50V
C5403	1-128-527-11	ELECT 330UF	20.00% 25V
C5404	1-102-228-00	CERAMIC 470PF	10.00% 500V
C5405	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C5406	1-129-702-00	MYLAR 0.001UF	10.00% 400V
C5407	1-128-527-11	ELECT 330UF	20.00% 25V
C5409	1-126-968-11	ELECT 100UF	20.00% 50V
C5410	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C5411	1-137-401-11	MYLAR 0.22UF	5.00% 100V
C5412	1-106-220-00	MYLAR 0.1UF	10.00% 100V
C5413	1-130-785-11	MYLAR 0.47UF	5.00% 100V
C5414	1-126-964-11	ELECT 10UF	20.00% 50V
C5801	1-126-963-11	ELECT 4.7UF	20.00% 50V
C5850	1-126-963-11	ELECT 4.7UF	20.00% 50V
C5851	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5853	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5854	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5858	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5859	1-126-960-11	ELECT 1UF	20.00% 50V
C5860	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5868	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C5872	1-164-346-11	CERAMIC CHIP 1UF	16V
C5873	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C5888	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5889	1-126-964-11	ELECT 10UF	20.00% 50V
C5890	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C5891	1-137-581-11	FILM 0.1UF	5.00% 100V
C5892	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5893	1-126-947-11	ELECT 47UF	20.00% 35V
C5894	1-126-947-11	ELECT 47UF	20.00% 35V
C5895	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5896	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5897	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5898	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C5899	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C6200	1-126-933-11	ELECT 100UF	20.00% 16V
C6201	1-126-935-11	ELECT 470UF	20.00% 16V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C6202	1-126-933-11	ELECT 100UF	20.00% 16V
C6203	1-126-935-11	ELECT 470UF	20.00% 16V
C6204	1-126-933-11	ELECT 100UF	20.00% 16V
C6205	1-126-935-11	ELECT 470UF	20.00% 16V
C6206	1-126-933-11	ELECT 100UF	20.00% 16V
C6207	1-126-933-11	ELECT 100UF	20.00% 16V
C6208	1-126-933-11	ELECT 100UF	20.00% 16V
C6209	1-126-933-11	ELECT 100UF	20.00% 16V
C6210	1-126-935-11	ELECT 470UF	20.00% 16V
C6211	1-126-947-11	ELECT 47UF	20.00% 35V
C6212	1-126-933-11	ELECT 100UF	20.00% 16V
C6213	1-126-933-11	ELECT 100UF	20.00% 16V
C6214	1-126-933-11	ELECT 100UF	20.00% 16V
C7002	1-126-947-11	ELECT 47UF	20.00% 35V
C7004	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7008	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C7016	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C7018	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7019	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7020	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7021	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7022	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7023	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7030	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7031	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7032	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7038	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C7039	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C7050	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C7051	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7052	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7053	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7054	1-126-963-11	ELECT 4.7UF	20.00% 50V
C7055	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7056	1-126-933-11	ELECT 100UF	20.00% 16V
C7057	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7058	1-126-933-11	ELECT 100UF	20.00% 16V
C7059	1-126-933-11	ELECT 100UF	20.00% 16V
C7060	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7061	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7062	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7063	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7064	1-126-947-11	ELECT 47UF	20.00% 35V
C7065	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7067	1-126-947-11	ELECT 47UF	20.00% 35V
C7068	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7069	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C7070	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C7071	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< CONNECTOR >	
CN0101	* 1-823-330-11	CONNECTOR, BOARD TO BOARD 40P	
CN0102	* 1-564-520-11	PLUG, CONNECTOR 5P	
CN0103	* 1-817-035-61	PLUG, CONNECTOR 4P	
CN1000	* 1-417-319-11	CONNECTOR (SQUARE TYPE) 21P	
CN1001	* 1-766-296-21	CONNECTOR, DUAL SCART	
CN2000	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN2500	* 1-816-974-51	PLUG, CONNECTOR 3P	
CN2501	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN2502	* 1-816-977-51	PLUG, CONNECTOR 6P	
CN5002	* 1-816-984-71	PLUG, CONNECTOR 7P	
CN5100	* 1-816-974-51	PLUG, CONNECTOR 3P	
CN5801	1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P	
CN6200	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN6202	* 1-564-516-11	PLUG, CONNECTOR 13P	
CN6203	1-695-915-11	TAB (CONTACT)	
CN7000	* 1-817-042-81	PLUG, CONNECTOR 5P	
CN7001	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN8001	1-766-281-11	PIN, CONNECTOR (PC BOARD) 8P	
		< DIODE >	
D0101	8-719-921-88	DIODE MTZJ-13B	
D0104	8-719-109-89	DIODE RD5.6ESB2	
D0110	8-719-109-89	DIODE RD5.6ESB2	
D0111	8-719-929-15	DIODE HZS9.1NB2	
D0112	8-719-921-88	DIODE MTZJ-13B	
D0113	8-719-921-88	DIODE MTZJ-13B	
D1006	8-719-109-89	DIODE RD5.6ESB2	
D2014	8-719-929-15	DIODE HZS9.1NB2	
D2015	8-719-929-15	DIODE HZS9.1NB2	
D2016	8-719-050-38	DIODE M1MA152WK-T1	
D2018	8-719-929-15	DIODE HZS9.1NB2	
D2019	8-719-929-15	DIODE HZS9.1NB2	
D2500	8-719-050-38	DIODE M1MA152WK-T1	
D2502	8-719-109-89	DIODE RD5.6ESB2	
D2503	8-719-050-38	DIODE M1MA152WK-T1	
D3001	8-719-929-15	DIODE HZS9.1NB2	
D3003	8-719-929-15	DIODE HZS9.1NB2	
D3005	8-719-929-15	DIODE HZS9.1NB2	
D3007	8-719-109-89	DIODE RD5.6ESB2	
D3008	8-719-109-89	DIODE RD5.6ESB2	
D3009	8-719-929-15	DIODE HZS9.1NB2	
D3011	8-719-929-15	DIODE HZS9.1NB2	
D3013	8-719-929-15	DIODE HZS9.1NB2	
D3015	8-719-929-15	DIODE HZS9.1NB2	
D3017	8-719-109-89	DIODE RD5.6ESB2	
D3018	8-719-109-89	DIODE RD5.6ESB2	
D3019	8-719-929-15	DIODE HZS9.1NB2	
D3021	8-719-929-15	DIODE HZS9.1NB2	

REF.NO.	PART.NO	DESCRIPTION	REMARK
D3023	8-719-109-89	DIODE RD5.6ESB2	
D3024	8-719-929-15	DIODE HZS9.1NB2	
D3026	8-719-929-15	DIODE HZS9.1NB2	
D3028	8-719-929-15	DIODE HZS9.1NB2	
D3201	8-719-109-89	DIODE RD5.6ESB2	
D5101	8-719-050-38	DIODE M1MA152WK-T1	
D5103	8-719-110-86	DIODE RD39ESB	
D5104	8-719-109-89	DIODE RD5.6ESB2	
D5300	8-719-081-97	DIODE MMDL914T1	
D5303	8-719-081-97	DIODE MMDL914T1	
D5304	8-719-081-97	DIODE MMDL914T1	
D5305	8-719-991-33	DIODE 1SS133T-77	
D5306	8-719-302-43	DIODE EL1Z	
D5307	8-719-987-87	DIODE ERA85-009	
D5309	8-719-081-97	DIODE MMDL914T1	
D5310	8-719-081-97	DIODE MMDL914T1	
D5400	8-719-982-03	DIODE MTZJ-3.6A	
D5401	8-719-050-38	DIODE M1MA152WK-T1	
D5404	8-719-110-41	DIODE RD15ESB2	
D5405	8-719-908-03	DIODE GP08D	
D5406	8-719-081-97	DIODE MMDL914T1	
D5407	8-719-081-97	DIODE MMDL914T1	
D5804	8-719-109-89	DIODE RD5.6ESB2	
D5807	8-719-929-15	DIODE HZS9.1NB2	
D5809	8-719-050-38	DIODE M1MA152WK-T1	
D5811	8-719-081-97	DIODE MMDL914T1	
D5812	8-719-081-97	DIODE MMDL914T1	
D5813	8-719-081-97	DIODE MMDL914T1	
D5814	1-216-295-91	SHORT CHIP 0	
D6200	8-719-063-70	DIODE D1NL20U	
D7004	8-719-929-15	DIODE HZS9.1NB2	
D7006	1-216-809-11	METAL CHIP 100 5%	1/10W
		< FERRITE BEAD >	
FB3001	1-414-760-21	FERRITE 0UH	
		< FILTER >	
FL2000	1-239-803-11	FILTER, EMI	
		< IC >	
IC2000	6-701-031-11	IC MSP3411G-QA-B11	
IC2001	8-759-100-96	IC UPC4558G2	
IC2500	8-759-831-56	IC TDA7497	
IC3200	6-700-505-01	IC VSP9402A-A32GEG	
IC5102	8-759-325-48	IC CA0005AD	
IC5103	8-752-072-94	IC CXA1875AM-T4	
IC5104	8-759-803-42	IC LA6500-FA	
IC5300	8-759-008-70	IC LM358N	
IC5301	8-759-659-67	IC LA6393DLL	

REF.NO.	PART.NO	DESCRIPTION	REMARK
IC5302	8-759-659-67	IC LA6393DLL	
IC5400	8-759-696-71	IC STV9379A	
IC6200	8-759-648-19	IC L7809CV/LSY	
IC6201	8-759-648-20	IC L7805CV/LSY	
IC6202	8-759-445-59	IC BA033T	
IC6203	8-759-098-24	IC PQ30RV11	
IC6204	8-759-591-02	IC L78L33ABZ-AP	
IC6205	8-759-394-35	IC BA12T	
IC6206	8-759-991-41	IC LM78L05ACZ	
IC7002	8-752-090-88	IC CXA2100AQ-TL	
		< SOCKET >	
J2000	1-784-632-11	JACK, PIN 2P	
		< COIL >	
L1000	1-412-987-31	INDUCTOR 4.7UH	
L1001	1-412-987-31	INDUCTOR 4.7UH	
L1002	1-414-934-21	INDUCTOR 10UH	
L1003	1-414-934-21	INDUCTOR 10UH	
L1005	1-414-934-21	INDUCTOR 10UH	
L2000	1-414-934-21	INDUCTOR 10UH	
L2001	1-414-934-21	INDUCTOR 10UH	
L2007	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2008	1-216-295-91	SHORT CHIP 0	
L2009	1-216-295-91	SHORT CHIP 0	
L2010	1-414-928-21	INDUCTOR 1UH	
L2012	1-414-934-21	INDUCTOR 10UH	
L2014	1-408-602-31	INDUCTOR 8.2UH	
L2500	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2501	1-535-303-00	LEAD, JUMPER (5.0MM)	
L3000	1-216-295-91	SHORT CHIP 0	
L3004	1-216-295-91	SHORT CHIP 0	
L3005	1-216-295-91	SHORT CHIP 0	
L3006	1-216-295-91	SHORT CHIP 0	
L3007	1-216-295-91	SHORT CHIP 0	
L3008	1-216-295-91	SHORT CHIP 0	
L3009	1-216-295-91	SHORT CHIP 0	
L3010	1-216-295-91	SHORT CHIP 0	
L3011	1-216-295-91	SHORT CHIP 0	
L3012	1-216-295-91	SHORT CHIP 0	
L3200	1-412-006-31	INDUCTOR 10UH	
L3202	1-412-006-31	INDUCTOR 10UH	
L3203	1-412-006-31	INDUCTOR 10UH	
L3206	1-412-006-31	INDUCTOR 10UH	
L3208	1-412-006-31	INDUCTOR 10UH	
L3300	1-412-006-31	INDUCTOR 10UH	
L5300	1-406-989-21	INDUCTOR 10MH	
L5301	1-406-989-21	INDUCTOR 10MH	
L5400	1-412-524-11	INDUCTOR 8.2UH	
L5896	1-216-864-11	SHORT CHIP 0	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK
L5897	1-216-864-11	SHORT CHIP 0	
L5898	1-414-934-21	INDUCTOR 10UH	
L5899	1-414-934-21	INDUCTOR 10UH	
L7001	1-414-934-21	INDUCTOR 10UH	
L7009	1-414-934-21	INDUCTOR 10UH	
L7010	1-414-934-21	INDUCTOR 10UH	
L7011	1-414-934-21	INDUCTOR 10UH	
L7012	1-414-934-21	INDUCTOR 10UH	
		< PROTECTOR MODULE >	
PS2501 ⚠	1-533-597-31	IC LINK 5A	
		< TRANSISTOR >	
Q1000	8-729-010-05	TRANSISTOR MSB709-RT1	
Q1001	8-729-010-29	TRANSISTOR MSD601-RST1	
Q1004	8-729-010-05	TRANSISTOR MSB709-RT1	
Q1005	8-729-421-19	TRANSISTOR UN2213	
Q1006	8-729-010-05	TRANSISTOR MSB709-RT1	
Q2000	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2001	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2002	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2004	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2005	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2501	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2502	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2503	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2504	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3200	8-729-010-29	TRANSISTOR MSD601-RST1	
Q3201	8-729-010-29	TRANSISTOR MSD601-RST1	
Q3202	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3204	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3300	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3301	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3302	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3500	8-729-028-28	TRANSISTOR 2SK2036(TE85L)	
Q3501	8-729-028-28	TRANSISTOR 2SK2036(TE85L)	
Q5100	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5101	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5300	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5301	8-729-053-33	TRANSISTOR IRF614-037	
Q5302	8-729-140-97	TRANSISTOR 2SB734-34	
Q5303	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5304	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5305	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q5306	8-729-140-97	TRANSISTOR 2SB734-34	
Q5307	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5400	8-729-010-29	TRANSISTOR MSD601-RST1	

REF.NO.	PART.NO	DESCRIPTION	REMARK
Q5401	8-729-421-19	TRANSISTOR UN2213	
Q5402	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5403	8-729-421-19	TRANSISTOR UN2213	
Q5404	8-729-926-76	TRANSISTOR IRF620	
Q5813	8-729-421-19	TRANSISTOR UN2213	
Q5814	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5815	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5816	8-729-010-05	TRANSISTOR MSB709-RT1	
Q6201	8-729-140-97	TRANSISTOR 2SB734-34	
Q7003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7009	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7011	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7012	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7013	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7014	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7015	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7016	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7017	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7018	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7019	8-729-010-29	TRANSISTOR MSD601-RST1	
		< RESISTOR >	
JR121	1-216-864-11	SHORT CHIP 0	
JR123	1-216-864-11	SHORT CHIP 0	
JR2000	1-216-295-91	SHORT CHIP 0	
R0101	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0102	1-216-827-11	METAL CHIP 3.3K 5%	1/10W
R0103	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0104	1-216-827-11	METAL CHIP 3.3K 5%	1/10W
R0105	1-216-025-11	RES-CHIP 100 5%	1/10W
R0107	1-216-025-11	RES-CHIP 100 5%	1/10W
R1000	1-216-049-11	RES-CHIP 1K 5%	1/10W
R1001	1-216-001-00	RES-CHIP 10 5%	1/10W
R1002	1-216-821-11	METAL CHIP 1K 5%	1/10W
R1003	1-216-809-11	METAL CHIP 100 5%	1/10W
R1004	1-216-809-11	METAL CHIP 100 5%	1/10W
R1005	1-216-049-11	RES-CHIP 1K 5%	1/10W
R1006	1-216-051-00	RES-CHIP 1.2K 5%	1/10W
R1007	1-414-813-11	FERRITE 0UH	
R1008	1-216-295-91	SHORT CHIP 0	
R1009	1-216-295-91	SHORT CHIP 0	
R1010	1-216-295-91	SHORT CHIP 0	
R1014	1-216-295-91	SHORT CHIP 0	
R1017	1-216-822-11	METAL CHIP 1.2K 5%	1/10W
R1019	1-216-295-91	SHORT CHIP 0	
R1021	1-216-833-11	METAL CHIP 10K 5%	1/10W
R1022	1-216-839-11	METAL CHIP 33K 5%	1/10W
R1023	1-216-849-11	METAL CHIP 220K 5%	1/10W
R1024	1-216-839-11	METAL CHIP 33K 5%	1/10W
R1025	1-216-837-11	METAL CHIP 22K 5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R1026	1-216-817-11	METAL CHIP	470	5%	1/10W
R2009	1-216-817-11	METAL CHIP	470	5%	1/10W
R2010	1-216-817-11	METAL CHIP	470	5%	1/10W
R2011	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2014	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2015	1-216-295-91	SHORT CHIP	0		
R2017	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2018	1-216-295-91	SHORT CHIP	0		
R2020	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2023	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2026	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2029	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2032	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2035	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2038	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2041	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2042	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2043	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2044	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2047	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2048	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2050	1-216-845-11	METAL CHIP	100K	5%	1/10W
R2051	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2052	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2053	1-216-864-11	SHORT CHIP	0		
R2054	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2055	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2056	1-216-037-00	RES-CHIP	330	5%	1/10W
R2057	1-216-025-11	RES-CHIP	100	5%	1/10W
R2058	1-216-025-11	RES-CHIP	100	5%	1/10W
R2059	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2060	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2061	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2062	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2063	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2064	1-249-425-11	CARBON	4.7K	5%	1/4W
R2065	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2066	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2067	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2068	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2069	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2070	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2071	1-216-839-11	METAL CHIP	33K	5%	1/10W
R2072	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2073	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2074	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2075	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2076	1-216-839-11	METAL CHIP	33K	5%	1/10W
R2077	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2078	1-216-025-11	RES-CHIP	100	5%	1/10W
R2079	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2080	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R2081	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2082	1-216-805-11	METAL CHIP	47	5%	1/10W
R2083	1-216-817-11	METAL CHIP	470	5%	1/10W
R2084	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2085	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2086	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2087	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2088	1-216-041-00	RES-CHIP	470	5%	1/10W
R2089	1-216-041-00	RES-CHIP	470	5%	1/10W
R2092	1-216-039-00	RES-CHIP	390	5%	1/10W
R2093	1-216-039-00	RES-CHIP	390	5%	1/10W
R2094	1-216-039-00	RES-CHIP	390	5%	1/10W
R2095	1-216-039-00	RES-CHIP	390	5%	1/10W
R2096	1-216-039-00	RES-CHIP	390	5%	1/10W
R2097	1-216-039-00	RES-CHIP	390	5%	1/10W
R2098	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2099	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2500	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2501	1-216-341-11	METAL OXIDE	0.22	5%	1W
R2502	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R2503	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R2504	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2507	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2509	1-249-417-11	CARBON	1K	5%	1/4W
R2511	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2516	1-216-081-00	RES-CHIP	22K	5%	1/10W
R2517	1-216-841-11	METAL CHIP	47K	5%	1/10W
R2518	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2519	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2520	1-216-025-11	RES-CHIP	100	5%	1/10W
R2524	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2525	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R2912	1-216-295-91	SHORT CHIP	0		
R2914	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2921	1-216-295-91	SHORT CHIP	0		
R2924	1-216-295-91	SHORT CHIP	0		
R2927	1-216-295-91	SHORT CHIP	0		
R2930	1-216-295-91	SHORT CHIP	0		
R2933	1-216-295-91	SHORT CHIP	0		
R2936	1-216-295-91	SHORT CHIP	0		
R2939	1-216-295-91	SHORT CHIP	0		
R2942	1-216-295-91	SHORT CHIP	0		
R2945	1-216-295-91	SHORT CHIP	0		
R3000	1-216-025-11	RES-CHIP	100	5%	1/10W
R3001	1-216-022-00	RES-CHIP	75	5%	1/10W
R3009	1-216-025-11	RES-CHIP	100	5%	1/10W
R3010	1-216-022-00	RES-CHIP	75	5%	1/10W
R3011	1-216-025-11	RES-CHIP	100	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R3012	1-216-022-00	RES-CHIP	75	5%	1/10W
R3013	1-216-025-11	RES-CHIP	100	5%	1/10W
R3014	1-216-022-00	RES-CHIP	75	5%	1/10W
R3015	1-216-022-00	RES-CHIP	75	5%	1/10W
R3016	1-216-025-11	RES-CHIP	100	5%	1/10W
R3017	1-216-022-00	RES-CHIP	75	5%	1/10W
R3018	1-216-025-11	RES-CHIP	100	5%	1/10W
R3019	1-216-022-00	RES-CHIP	75	5%	1/10W
R3020	1-216-025-11	RES-CHIP	100	5%	1/10W
R3021	1-216-022-00	RES-CHIP	75	5%	1/10W
R3022	1-216-025-11	RES-CHIP	100	5%	1/10W
R3023	1-216-022-00	RES-CHIP	75	5%	1/10W
R3024	1-216-025-11	RES-CHIP	100	5%	1/10W
R3025	1-216-022-00	RES-CHIP	75	5%	1/10W
R3026	1-216-022-00	RES-CHIP	75	5%	1/10W
R3027	1-216-025-11	RES-CHIP	100	5%	1/10W
R3028	1-216-022-00	RES-CHIP	75	5%	1/10W
R3029	1-216-045-00	RES-CHIP	680	5%	1/10W
R3030	1-216-022-00	RES-CHIP	75	5%	1/10W
R3031	1-216-022-00	RES-CHIP	75	5%	1/10W
R3032	1-216-022-00	RES-CHIP	75	5%	1/10W
R3033	1-216-025-11	RES-CHIP	100	5%	1/10W
R3034	1-216-022-00	RES-CHIP	75	5%	1/10W
R3035	1-216-025-11	RES-CHIP	100	5%	1/10W
R3036	1-216-022-00	RES-CHIP	75	5%	1/10W
R3037	1-216-045-00	RES-CHIP	680	5%	1/10W
R3218	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3219	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3220	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3221	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3222	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3223	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3225	1-216-025-11	RES-CHIP	100	5%	1/10W
R3226	1-216-025-11	RES-CHIP	100	5%	1/10W
R3229	1-216-025-11	RES-CHIP	100	5%	1/10W
R3233	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3234	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3235	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R3236	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R3237	1-216-797-11	METAL CHIP	10	5%	1/10W
R3238	1-216-797-11	METAL CHIP	10	5%	1/10W
R3305	1-216-025-11	RES-CHIP	100	5%	1/10W
R3306	1-216-025-11	RES-CHIP	100	5%	1/10W
R3312	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3313	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3314	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3318	1-216-025-11	RES-CHIP	100	5%	1/10W
R3319	1-216-025-11	RES-CHIP	100	5%	1/10W
R3320	1-216-025-11	RES-CHIP	100	5%	1/10W
R3403	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3500	1-216-834-11	METAL CHIP	12K	5%	1/10W
R3501	1-216-834-11	METAL CHIP	12K	5%	1/10W
R3504	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3505	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3603	1-216-295-91	SHORT CHIP	0		
R5102	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R5103	1-218-833-11	METAL CHIP	270	0.5%	1/10W
R5107	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R5111	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R5112	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R5118	1-249-411-11	CARBON	330	5%	1/4W
R5119	1-216-844-11	METAL CHIP	82K	5%	1/10W
R5122	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5125	1-216-836-11	METAL CHIP	18K	5%	1/10W
R5126	1-249-406-11	CARBON	120	5%	1/4W
R5127	1-216-025-11	RES-CHIP	100	5%	1/10W
R5128	1-216-809-11	METAL CHIP	100	5%	1/10W
R5129	1-216-809-11	METAL CHIP	100	5%	1/10W
R5130	1-216-809-11	METAL CHIP	100	5%	1/10W
R5131	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5132	1-216-809-11	METAL CHIP	100	5%	1/10W
R5133	1-216-809-11	METAL CHIP	100	5%	1/10W
R5137	1-216-809-11	METAL CHIP	100	5%	1/10W
R5138	1-216-809-11	METAL CHIP	100	5%	1/10W
R5139	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5140	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5146	1-216-025-11	RES-CHIP	100	5%	1/10W
R5148	1-216-809-11	METAL CHIP	100	5%	1/10W
R5149	1-218-833-11	METAL CHIP	270	0.5%	1/10W
R5150	1-249-414-11	CARBON	560	5%	1/4W
R5151	1-249-454-11	CARBON	3.9	5%	1/4W
R5152	1-249-413-11	CARBON	470	5%	1/4W
R5153	1-249-393-11	CARBON	10	5%	1/4W
R5154	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5155	1-249-421-11	CARBON	2.2K	5%	1/4W
R5156	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5157	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5300	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5301	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5302	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5303	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R5304	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5305	1-208-852-11	METAL CHIP	820K	0.5%	1/10W
R5306	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5307	1-216-041-00	RES-CHIP	470	5%	1/10W
R5308	1-216-295-91	SHORT CHIP	0		
R5309	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R5310	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R5311	1-216-045-00	RES-CHIP	680	5%	1/10W
R5312	1-208-832-11	METAL CHIP	120K	0.5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R5314	1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R5315	1-216-043-91	RES-CHIP	560	5%	1/10W
R5316	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5317	1-216-845-11	METAL CHIP	100K	5%	1/10W
R5318	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5319	1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R5320	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5321	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5322	1-216-820-11	METAL CHIP	820	5%	1/10W
R5324	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R5325	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R5326	1-216-845-11	METAL CHIP	100K	5%	1/10W
R5327	1-216-472-00	METAL OXIDE	39	5%	3W
R5328	1-216-033-00	RES-CHIP	220	5%	1/10W
R5331	1-216-033-00	RES-CHIP	220	5%	1/10W
R5332	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5333	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R5334	1-208-834-11	METAL CHIP	150K	0.5%	1/10W
R5335	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R5336	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5337	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R5338	1-249-413-11	CARBON	470	5%	1/4W
R5340	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5341	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5342	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R5343	1-208-808-11	METAL CHIP	12K	0.5%	1/10W
R5344	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R5345	1-208-832-11	METAL CHIP	120K	0.5%	1/10W
R5346	1-216-849-11	METAL CHIP	220K	5%	1/10W
R5347	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5349	1-216-043-91	RES-CHIP	560	5%	1/10W
R5350	1-216-041-00	RES-CHIP	470	5%	1/10W
R5351	1-216-809-11	METAL CHIP	100	5%	1/10W
R5352	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5400	1-216-848-11	METAL CHIP	180K	5%	1/10W
R5401	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5402	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5403	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5404	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5405	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5407	1-216-854-11	METAL CHIP	560K	5%	1/10W
R5408	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R5409	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5410	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R5411	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R5413	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5414	1-249-383-11	CARBON	1.5	5%	1/4W
R5415	1-249-389-11	CARBON	4.7	5%	1/4W
R5416	1-215-888-00	METAL OXIDE	220	5%	2W
R5417	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R5420	1-214-798-21	METAL	1.8	1%	1/2W
R5421	1-214-798-21	METAL	1.8	1%	1/2W
R5803	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R5804	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5805	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5806	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5807	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5808	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5809	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5865	1-216-841-11	METAL CHIP	47K	5%	1/10W
R5869	1-216-817-11	METAL CHIP	470	5%	1/10W
R5871	1-216-850-11	METAL CHIP	270K	5%	1/10W
R5872	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5873	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5875	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R5877	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5878	1-216-820-11	METAL CHIP	820	5%	1/10W
R5879	1-216-809-11	METAL CHIP	100	5%	1/10W
R5880	1-216-809-11	METAL CHIP	100	5%	1/10W
R5881	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5882	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5883	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R5884	1-216-841-11	METAL CHIP	47K	5%	1/10W
R5885	1-216-809-11	METAL CHIP	100	5%	1/10W
R5887	1-216-809-11	METAL CHIP	100	5%	1/10W
R5888	1-216-809-11	METAL CHIP	100	5%	1/10W
R5889	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5892	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5895	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5898	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R5899	1-216-863-11	METAL CHIP	3.3M	5%	1/10W
R6200	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R6201	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R6202	1-249-395-11	CARBON	15	5%	1/4W
R7007	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7018	1-216-025-11	RES-CHIP	100	5%	1/10W
R7023	1-216-834-11	METAL CHIP	12K	5%	1/10W
R7034	1-216-025-11	RES-CHIP	100	5%	1/10W
R7035	1-216-025-11	RES-CHIP	100	5%	1/10W
R7048	1-216-025-11	RES-CHIP	100	5%	1/10W
R7050	1-216-833-11	METAL CHIP	10K	5%	1/10W
R7051	1-216-025-11	RES-CHIP	100	5%	1/10W
R7052	1-216-025-11	RES-CHIP	100	5%	1/10W
R7053	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7054	1-216-847-11	METAL CHIP	150K	5%	1/10W
R7056	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R7057	1-216-842-11	METAL CHIP	56K	5%	1/10W
R7058	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7065	1-216-821-11	METAL CHIP	1K	5%	1/10W
R7066	1-216-809-11	METAL CHIP	100	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R7068	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7070	1-216-817-11	METAL CHIP	470	5%	1/10W
R7071	1-216-817-11	METAL CHIP	470	5%	1/10W
R7072	1-216-817-11	METAL CHIP	470	5%	1/10W
R7073	1-216-041-00	RES-CHIP	470	5%	1/10W
R7074	1-216-043-91	RES-CHIP	560	5%	1/10W
R7075	1-216-817-11	METAL CHIP	470	5%	1/10W
R7076	1-216-041-00	RES-CHIP	470	5%	1/10W
R7077	1-216-043-91	RES-CHIP	560	5%	1/10W
R7078	1-216-817-11	METAL CHIP	470	5%	1/10W
R7079	1-216-041-00	RES-CHIP	470	5%	1/10W
R7080	1-216-043-91	RES-CHIP	560	5%	1/10W
R7081	1-216-817-11	METAL CHIP	470	5%	1/10W
R7082	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R7088	1-208-783-11	METAL CHIP	1.1K	0.5%	1/10W
R7089	1-216-819-11	METAL CHIP	680	5%	1/10W
R7090	1-216-819-11	METAL CHIP	680	5%	1/10W
R7091	1-216-819-11	METAL CHIP	680	5%	1/10W
R7092	1-216-295-91	SHORT CHIP	0		
R7093	1-216-295-91	SHORT CHIP	0		
R7094	1-216-295-91	SHORT CHIP	0		
R7095	1-216-295-91	SHORT CHIP	0		
R7096	1-216-803-11	METAL CHIP	33	5%	1/10W
R7097	1-216-803-11	METAL CHIP	33	5%	1/10W
R7098	1-216-803-11	METAL CHIP	33	5%	1/10W

< CRYSTAL >

REF.NO.	PART.NO	DESCRIPTION
X2000	1-760-628-11	VIBRATOR, CRYSTAL
X3200	1-781-946-21	VIBRATOR, CRYSTAL
X5800	1-767-127-11	VIBRATOR, CERAMIC

A Board Variant Parts KV-28FX68B

< TUNER >

REF.NO.	PART.NO	DESCRIPTION
TU1000	8-598-535-20	FRONTEND BTF-EF411

A Board Variant Parts KV-28FX68E

< TUNER >

REF.NO.	PART.NO	DESCRIPTION
TU1000	8-598-533-10	FRONTEND BTF-EC411

A Board Variant Parts KV-28FX68U

< TUNER >

REF.NO.	PART.NO	DESCRIPTION
TU1000	8-598-529-10	FRONTEND BTF-EU611

* A-1300-532-A C Board, Complete

REF.NO.	PART.NO	DESCRIPTION		REMARK	
	4-382-854-01	SCREW (M3X8), P, SW (+)			

< CAPACITOR >

REF.NO.	PART.NO	DESCRIPTION		REMARK	
C7303	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C7304	1-107-967-11	ELECT	1UF	20.00%	400V
C7305	1-136-207-11	MYLAR	0.047UF	5.00%	630V
C7306	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C7308	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C7309	1-163-035-00	CERAMIC CHIP	0.047UF		50V
C7310	1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C7325	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C7326	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C7329	1-107-967-11	ELECT	1UF	20.00%	400V
C7330	1-136-207-11	MYLAR	0.047UF	5.00%	630V
C7331	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C7333	1-163-035-00	CERAMIC CHIP	0.047UF		50V
C7334	1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C7350	1-126-947-11	ELECT	47UF	20.00%	35V
C7351	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C7352	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C7354	1-126-933-11	ELECT	100UF	20.00%	16V
C7355	1-107-967-11	ELECT	1UF	20.00%	400V
C7356	1-136-207-11	MYLAR	0.047UF	5.00%	630V
C7358	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C7359	1-163-035-00	CERAMIC CHIP	0.047UF		50V
C7360	1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C7378	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C7379	1-162-114-00	CERAMIC	0.0047UF		2KV
C7380	1-107-662-11	ELECT	22UF	20.00%	350V
C7384	1-162-911-11	CERAMIC CHIP	6PF	0.50PF	50V
C7385	1-162-913-11	CERAMIC CHIP	8PF	0.50PF	50V
C7387	1-162-911-11	CERAMIC CHIP	6PF	0.50PF	50V
C7388	1-162-913-11	CERAMIC CHIP	8PF	0.50PF	50V
C7390	1-162-911-11	CERAMIC CHIP	6PF	0.50PF	50V
C7391	1-162-913-11	CERAMIC CHIP	8PF	0.50PF	50V

< CONNECTOR >

REF.NO.	PART.NO	DESCRIPTION
CN7300	* 1-564-508-11	PLUG, CONNECTOR 5P
CN7301	* 1-564-512-11	PLUG, CONNECTOR 9P
CN7311	1-695-915-11	TAB (CONTACT)
CN7333	1-695-915-11	TAB (CONTACT)

< DIODE >

REF.NO.	PART.NO	DESCRIPTION
D7300	8-719-911-19	DIODE 1SS119-25
D7325	8-719-911-19	DIODE 1SS119-25
D7350	8-719-911-19	DIODE 1SS119-25
D7375	8-719-991-33	DIODE 1SS133T-77
D7376	8-719-991-33	DIODE 1SS133T-77

Note : The components identified by shading and marked △ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK
D7378	8-719-109-89	DIODE RD5.6ESB2	
D7379	8-719-109-89	DIODE RD5.6ESB2	
D7380	8-719-302-43	DIODE EL1Z	
D7381	8-719-302-43	DIODE EL1Z	
D7382	8-719-302-43	DIODE EL1Z	
		< IC >	
IC7300	8-759-360-83	IC TDA6111Q/N4	
IC7325	8-759-360-83	IC TDA6111Q/N4	
IC7350	8-759-360-83	IC TDA6111Q/N4	
		< SOCKET >	
J7375 △	1-251-732-11	SOCKET, CRT	
		< COIL >	
L7375	1-410-671-31	INDUCTOR 47UH	
L7376 △	1-532-637-00	IC LINK 1A/50V	
L7378	1-414-934-21	INDUCTOR 10UH	
		< TRANSISTOR >	
Q7350	8-729-901-06	TRANSISTOR DTA144EK	
Q7352	8-729-421-19	TRANSISTOR UN2213	
Q7353	8-729-421-19	TRANSISTOR UN2213	
Q7354	8-729-901-06	TRANSISTOR DTA144EK	
Q7355	8-729-421-19	TRANSISTOR UN2213	
		< RESISTOR >	
R7300	1-249-417-11	CARBON 1K 5%	1/4W
R7302	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7303	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7304	1-260-095-11	CARBON 470 5%	1/2W
R7305	1-215-903-11	METAL OXIDE 68K 5%	2W
R7306	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7309	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7310	1-216-819-11	METAL CHIP 680 5%	1/10W
R7325	1-249-417-11	CARBON 1K 5%	1/4W
R7327	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7328	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7329	1-260-095-11	CARBON 470 5%	1/2W
R7330	1-215-903-11	METAL OXIDE 68K 5%	2W
R7331	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7334	1-216-819-11	METAL CHIP 680 5%	1/10W
R7335	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7350	1-249-417-11	CARBON 1K 5%	1/4W
R7355	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7356	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7357	1-260-095-11	CARBON 470 5%	1/2W
R7358	1-215-903-11	METAL OXIDE 68K 5%	2W
R7360	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7363	1-216-819-11	METAL CHIP 680 5%	1/10W
R7364	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7373	1-216-823-11	METAL CHIP 1.5K 5%	1/10W
R7374	1-216-819-11	METAL CHIP 680 5%	1/10W
R7375	1-249-435-11	CARBON 33K 5%	1/4W
R7376	1-249-429-11	CARBON 10K 5%	1/4W
R7377	1-249-430-11	CARBON 12K 5%	1/4W
R7379	1-216-833-11	METAL CHIP 10K 5%	1/10W
R7380	1-216-833-11	METAL CHIP 10K 5%	1/10W
R7381	1-216-833-11	METAL CHIP 10K 5%	1/10W
R7382	1-202-549-00	SOLID 100 20%	1/2W
R7383	1-216-349-00	METAL OXIDE 1 5%	1W
R7385	1-202-549-00	SOLID 100 20%	1/2W
R7387	1-247-735-11	CARBON 47 5%	1/2W
R7388	1-535-143-51	LEAD, JUMPER (20.0MM)	
R7389	1-247-881-00	CARBON 120K 5%	1/4W
R7390	1-249-417-11	CARBON 1K 5%	1/4W
R7391	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7392	1-216-819-11	METAL CHIP 680 5%	1/10W
R7393	1-216-823-11	METAL CHIP 1.5K 5%	1/10W
R7394	1-249-417-11	CARBON 1K 5%	1/4W
R7395	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
R7396	1-216-819-11	METAL CHIP 680 5%	1/10W
R7397	1-216-823-11	METAL CHIP 1.5K 5%	1/10W
R7398	1-249-417-11	CARBON 1K 5%	1/4W
R7399	1-216-824-11	METAL CHIP 1.8K 5%	1/10W
		< RESISTOR VARIABLE >	
RV7375	1-241-656-11	RES, ADJ, METAL FILM 110M	

* A-1625-000-A F4 Board, Complete

REF.NO.	PART.NO	DESCRIPTION	REMARK
	* 4-374-846-01	COVER, CAPACITOR, CAP TYPE	
		< CAPACITOR >	
C6991	1-113-924-11	CERAMIC 0.0047UF	20.00% 250V
		< CONNECTOR >	
CN6991 △	* 1-580-843-11	PIN, CONNECTOR (POWER)	
CN6992 △	* 1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
CN6993	1-695-915-11	TAB (CONTACT)	
		< FUSE >	
F6991 △	1-576-232-11	FUSE (H.B.C.) 5A/250V	
△	1-533-725-11	FUSE HOLDER (F6991)	
		< RESISTOR >	
R6991 △	1-202-719-00	SOLID 1M 10%	1/2W

Note : The components identified by shading and marked △ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< SWITCH >	
S6991 △	1-571-433-21	SWITCH, PUSH (AC POWER)	
		< VARISTOR >	
VD6991 △	1-803-830-11	VARISTOR (ERZV14D621)	

* A-1646-243-A H1 Board, Complete

REF.NO.	PART.NO	DESCRIPTION	REMARK
	4-206-220-01	HOLDER, LED	
		< CAPACITOR >	
C0992	1-104-665-11	ELECT 100UF	20.00% 25V
C0993	1-102-114-00	CERAMIC 470PF	10.00% 50V
C0994	1-102-129-00	CERAMIC 0.01UF	10.00% 50V
		< CONNECTOR >	
CN0991	* 1-564-507-11	PLUG, CONNECTOR 4P	
		< DIODE >	
D0991	8-719-109-89	DIODE RD5.6ESB2	
D0993	8-719-082-12	DIODE TLHK5190	
		< IC >	
IC0991	8-742-180-30	HYB IC SBX3081-51(30)	
		< RESISTOR >	
R0992	1-247-807-31	CARBON 100 5%	1/4W

* A-1647-043-A H2 Board, Complete

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< CAPACITOR >	
C2906	1-126-960-11	ELECT 1UF	20.00% 50V
C2907	1-126-960-11	ELECT 1UF	20.00% 50V
C2913	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2914	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
		< CONNECTOR >	
CN2900	1-779-947-11	TERMINAL BLOCK, S	
CN2906	* 1-564-524-11	PLUG, CONNECTOR 9P	
CN2908	* 1-564-521-11	PLUG, CONNECTOR 6P	
		< SOCKET >	
J2900	1-750-264-11	JACK	
		< COIL >	
L0904	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2900	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2901	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2902	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2903	1-535-303-00	LEAD, JUMPER (5.0MM)	
		< RESISTOR >	
R912	1-535-303-00	LEAD, JUMPER (5.0MM)	
R0901	1-249-427-11	CARBON 6.8K 5%	1/4W
R0902	1-215-445-00	METAL 10K 1%	1/4W
R0911	1-249-419-11	CARBON 1.5K 5%	1/4W
R0913	1-247-843-11	CARBON 3.3K 5%	1/4W
R0914	1-249-431-11	CARBON 15K 5%	1/4W
R2903	1-249-406-11	CARBON 120 5%	1/4W
R2904	1-249-406-11	CARBON 120 5%	1/4W
R2909	1-247-895-91	CARBON 470K 5%	1/4W
R2910	1-247-895-91	CARBON 470K 5%	1/4W
R2915	1-249-406-11	CARBON 120 5%	1/4W
R2916	1-249-406-11	CARBON 120 5%	1/4W
R2917	1-249-412-11	CARBON 390 5%	1/4W
R2918	1-249-412-11	CARBON 390 5%	1/4W
		< SWITCH >	
S0900	1-692-979-11	SWITCH, TACTILE	
S0901	1-692-979-11	SWITCH, TACTILE	
S0902	1-692-979-11	SWITCH, TACTILE	

* A-1300-626-A VM Board, Complete

REF.NO.	PART.NO	DESCRIPTION	REMARK
	4-382-854-01	SCREW (M3X8), P, SW (+)	
		< CAPACITOR >	
C7401	1-126-935-11	ELECT 470UF	20.00% 16V
C7403	1-126-935-11	ELECT 470UF	20.00% 16V
C7404	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C7405	1-126-933-11	ELECT 100UF	20.00% 16V
C7406	1-126-935-11	ELECT 470UF	20.00% 16V
C7407	1-107-364-11	MYLAR 0.01UF	10.00% 200V
C7408	1-107-364-11	MYLAR 0.01UF	10.00% 200V
C7409	1-107-649-11	ELECT 2.2UF	20.00% 250V
C7410	1-130-471-00	MYLAR 0.001UF	5.00% 50V
C7411	1-130-471-00	MYLAR 0.001UF	5.00% 50V
C7412	1-126-935-11	ELECT 470UF	20.00% 16V
C7413	1-126-935-11	ELECT 470UF	20.00% 16V
C7414	1-107-652-11	ELECT 10UF	20.00% 250V
C7415	1-107-363-91	MYLAR 0.0068UF	10.00% 200V
C7418	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C7421	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
		< CONNECTOR >	
CN7442	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN7443	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN7444	* 1-770-723-11	CONNECTOR, BOARD TO BOARD 8P	

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< DIODE >	
D7400	8-719-991-33	DIODE 1SS133T-77	
D7401	8-719-991-33	DIODE 1SS133T-77	
D7402	1-535-303-00	LEAD, JUMPER (5.0MM)	
D7403	8-719-991-33	DIODE 1SS133T-77	
D7404	8-719-991-33	DIODE 1SS133T-77	
D7405	8-719-924-11	DIODE MTZJ-T-77-22	
D7406	8-719-924-11	DIODE MTZJ-T-77-22	
		< FERRITE BEAD >	
FB7400	1-535-303-00	LEAD, JUMPER (5.0MM)	
FB7401	1-535-303-00	LEAD, JUMPER (5.0MM)	
		< COIL >	
L7400	1-414-934-21	INDUCTOR 10UH	
L7402	1-414-934-21	INDUCTOR 10UH	
L7403	1-414-934-21	INDUCTOR 10UH	
		< TRANSISTOR >	
Q7400	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7401	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7402	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7403	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q7404	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q7405	8-729-026-39	TRANSISTOR 2SA933AS-QT	
Q7406	8-729-045-05	TRANSISTOR 2SA2005	
Q7407	8-729-045-04	TRANSISTOR 2SC5511	
Q7408	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q7409	8-729-010-29	TRANSISTOR MSD601-RST1	
		< RESISTOR >	
R7400	1-216-017-91	RES-CHIP 47 5%	1/10W
R7401	1-216-061-91	RES-CHIP 3.3K 5%	1/10W
R7402	1-216-041-00	RES-CHIP 470 5%	1/10W
R7403	1-249-393-11	CARBON 10 5%	1/4W
R7404	1-249-413-11	CARBON 470 5%	1/4W
R7405	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R7407	1-249-411-11	CARBON 330 5%	1/4W
R7409	1-216-029-00	RES-CHIP 150 5%	1/10W
R7410	1-216-017-91	RES-CHIP 47 5%	1/10W
R7411	1-216-017-91	RES-CHIP 47 5%	1/10W
R7412	1-216-017-91	RES-CHIP 47 5%	1/10W
R7413	1-249-414-11	CARBON 560 5%	1/4W
R7414	1-249-432-11	CARBON 18K 5%	1/4W
R7415	1-247-739-11	CARBON 100 5%	1/2W
R7416	1-249-389-11	CARBON 4.7 5%	1/4W
R7417	1-249-432-11	CARBON 18K 5%	1/4W
R7418	1-249-414-11	CARBON 560 5%	1/4W
R7419	1-249-421-11	CARBON 2.2K 5%	1/4W
R7420	1-249-421-11	CARBON 2.2K 5%	1/4W
R7421	1-249-389-11	CARBON 4.7 5%	1/4W
R7422	1-249-405-11	CARBON 100 5%	1/4W
R7423	1-215-915-11	METAL OXIDE 470 5%	3W
R7427	1-216-025-11	RES-CHIP 100 5%	1/10W
R7428	1-216-033-00	RES-CHIP 220 5%	1/10W
R7429	1-216-033-00	RES-CHIP 220 5%	1/10W
R7432	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R7433	1-249-395-11	CARBON 15 5%	1/4W
R7434	1-249-395-11	CARBON 15 5%	1/4W
R7435	1-216-033-00	RES-CHIP 220 5%	1/10W
R7436	1-216-049-11	RES-CHIP 1K 5%	1/10W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

MISCELLANEOUS

REF.NO.	PART.NO	DESCRIPTION	REMARK
⚠	1-571-433-21	SWITCH, PUSH (AC POWER)	
⚠	1-783-083-11	CORD, POWER (WITH FILTER) (KV-28FX68B/28FX68E)	
⚠	1-776-860-11	POWER CORD, FILTER (UK) (KV-28FX68U)	
	1-424-855-11	COIL, CHOKE 29MMH	
	8-598-535-20	FRONTEND BTF-EF411 (KV-28FX68B)	
	8-598-533-10	FRONTEND BTF-EC411 (KV-28FX68E)	
	8-598-529-10	FRONTEND BTF-EU611 (KV-28FX68U)	
⚠	1-453-383-11	TRANSFORMER ASSY, FLYBACK (NX4522//Z214)	
	1-529-408-11	SPEAKER (4.2X24CM)	
	1-529-417-11	SPEAKER (8CM)	
⚠	8-451-521-31	DEFLECTION YOKE (Y28RVC3-L2)	
⚠	1-424-886-11	COIL, DEGAUSSING	
⚠	1-251-317-63	CAP ASSY, HIGH VOLTAGE	
⚠	8-735-099-05	PICTURE TUBE (W66LLX060X)	
	1-452-896-11	COIL, NA ROTATION (RT200)	
	8-453-011-11	NECK ASSY NA299-M	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
	1-425-032-00	MAGNET, DISK; 10MM Ø	

ACCESSORIES AND PACKAGING MATERIALS

REF.NO.	PART.NO	DESCRIPTION	REMARK
	*4-395-957-01	BAG, PROTECTION	
	*4-205-505-03	CUSHION (LOWER) (ASSY)	
	*4-205-512-01	INDIVIDUAL CARTON	
	4-094-189-21	MANUAL, INSTRUCTION (KV-28FX68B) (GERMAN/ITALIAN/FRENCH/DUTCH)	
	4-094-189-31	MANUAL, INSTRUCTION (KV-28FX68E) (GERMAN/TURKISH/GREEK)	
	4-094-189-11	MANUAL, INSTRUCTION (KV-2FX68U) (ENGLISH)	

REMOTE COMMANDER

REF.NO.	PART.NO	DESCRIPTION	REMARK
	1-476-702-12	REMOTE COMMANDER (RM-932)	

TRACE

A new TV Repair Assistance Tool that combines ease of use and powerful PC software tools to allow you to save valuable time during many TV repairs.

RS-232
SONY TCSE
TRACE
CTRL
POWER
9V DC
POWER

The TRACE interface connects to the PC's serial port. It provides connection to the TV's I^2C bus and can be provided with an InfraRed transmitter (optional).

The interface is powered by a standard 9 V PP3 battery for portable use, and can also be powered by an external 9V/25mA DC power supply.

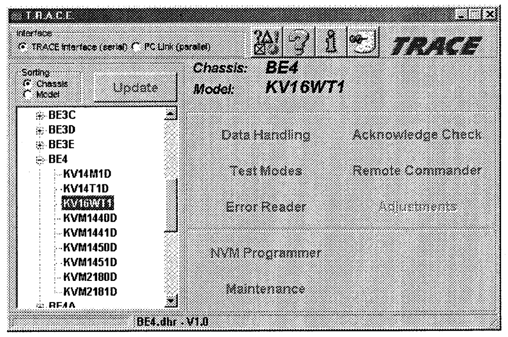
The TRACE software that is supplied with the interface allows you to:

- Read, restore and compare NVM contents via the I^2C bus
- Acknowledge check of all I^2C devices in the TV set
- Read Error Codes (emulation of the Error Reader tool)

With the optional IR Add-on kit, the following features can be added:

- Remote Commander emulation
- User programmable Functional Check through Infrared
- Fast and documented Test Mode setting of all Sony TV chassis

Additional features such as Adjustments and Troubleshooting are available in chassis-dependent software modules. Please contact your local Sony Service organisation for the latest information.



T.R.A.C.E

Interface ● TRACE Interface (serial) ○ PC Link (parallel)

Sorting ● Chassis ○ Model

Chassis: BE4

Model: KV16WT1

BE4.dhr - V1.0

TRACE
Update
BE3C
BE3D
BE3E
BE4
KV14M1D
KV14T1D
KV16WT1
KVM1440D
KVM1441D
KVM1450D
KVM1451D
KVM2180D
KVM2181D
BE4A
Data Handling
Acknowledge Check
Test Modes
Remote Commander
Error Reader
Adjustments
NVM Programmer
Maintenance

Note: For workshops already using the existing I^2C Link parallel port interface (9-948-320-30), this software can be used as well, replacing the TV Data Handling software (9-948-340-50), but Error Reader and IR functions can only be accessed with the TRACE interface.

Partnumbers:	TRACE Starter Kit (TRACE interface + software):	9-948-320-70
	TRACE Software (for users of the I^2C Link interface):	9-948-340-80
	TRACE IR Add-on (IR interface + Remote Commander software):	9-948-320-80

PC requirements: IBM-compatible PC with operating system Windows95, Windows98, or WindowsNT*.

* WindowsNT only supported with TRACE interface

English
03EP7100-1

Sony Corporation
Sony UK
Service Promotions Dept.

9-927-444-01

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